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THE COURAGE TO CHANGE **MODERNIZING U.S. MARINE CORPS HUMAN** **CAPITAL INVESTMENT AND RETENTION**

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TABLE OF CONTENTS

Executive Summary	1
<i>Key findings</i>	2
Introduction	4
1. Human capital theory and the All-Volunteer Force	7
<i>What is human capital?</i>	7
<i>Human capital costs and consequences of high turnover</i>	8
<i>Military human capital within the All-Volunteer Force</i>	10
2. The Marine Corps' commitment to low retention and high turnover	14
3. Performance and readiness implications of a young force	21
<i>The Marine Corps has chosen to be dramatically younger than other services</i>	21
<i>The Marine Corps has also chosen to be of significantly more junior rank</i>	22
<i>Marine Corps return on enlisted human capital investment</i>	23
<i>Variable fiscal cost implications of high enlisted turnover</i>	26
<i>High turnover implications for recruiting: Accessions are not getting easier</i>	30
<i>Assessing the "young and lean" myth against empirical data</i>	31
4. Tilting at windmills: Previous attempts to change	37
5. Barriers to change	42
6. The choice: Continue with "recruit and replace" or move to "invest and retain"	46
List of Acronyms	48
References	49
About the author	59
Acknowledgements	59

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EXECUTIVE SUMMARY

Since its transition to an All-Volunteer Force (AVF) in 1973 — and especially since its initial 1985 Enlisted Grade Structure Review — the United States Marine Corps has been committed to an idealized “first-term” force with an inexperienced, bottom-heavy grade structure. In pursuit of low personnel costs, the Marine Corps is unique in its commitment to high enlisted turnover which reduces aggregate experience, proficiency, and stability across the operating forces when compared to the other military services. Today’s Marine Corps enlisted manpower management practices are unnecessarily disruptive to cohesion, wasteful of talent, inimical to the Marine Corps’ warfighting philosophy, and incompatible with requirements of the modern battlefield. The hidden assumptions underpinning the way the Marine Corps fills its enlisted ranks require urgent, sober, dispassionate, thorough, and courageous reexamination.



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The current Marine Corps enlisted management system was designed during the Reagan administration to remedy two specific concerns. First, it sought to drive down average per capita pay and benefit costs by limiting the number of Marines with greater than four years of service. Second, it sought to achieve uniform promotion timelines across all military occupational specialties (MOSs) by imposing pyramid-shaped grade structures. By any measure, this system was successful at solving the perceived problems of 1985. Perpetuation of that paradigm, however, locked the Marine Corps into a remarkably durable process that has proved resistant to adaptation despite massive advances in technology, significant changes within American society, and mounting evidence of its inefficiency.

Over time, the Marine Corps developed a body of cultural conventional wisdom to justify its high-turnover personnel system. Senior leaders have argued that this youthful recruit-and-replace model is more affordable, more physically fit, and more proficient than a more mature invest-and-retain model. Yet, as will be demonstrated, such assertions are questionable. While lance corporals are certainly cheaper than sergeants, hidden and intangible costs of the current system are much more complex than a simple comparison of salaries. While the Marine Corps lacks sufficient cost data to inform a valid comparison of alternatives, qualitative analysis suggests that an alternative, slightly older force may be more affordable than assumed. *There is also ample objective evidence that the current Marine Corps enlisted force is less fit, less proficient, and less cohesive than a slightly more mature and stable alternative.*

Enlisted manpower management must be modernized if the Marine Corps is to have within its ranks the more experienced and technically proficient Marines required within a highly technical, distributed, and adaptive stand-in force. To achieve the force design goals of its 38th and current commandant, General David H. Berger, the Marine Corps' most senior leaders must find the courage and the resolve to make difficult choices and then aggressively supervise their implementation. To have the force the Marine Corps wants, it must increase investment in — and retention of — enlisted human capital in keeping with its appetite for increased capability.

By any standard, the Marine Corps system has managed to meet the internal, self-referential measures of success as defined within its manpower management orders and directives. The professionalism, sacrifice, and hard work of recruiters and manpower professionals have met demands of the high-turnover, low-investment system. Time and again, young Marines have prevailed on modern battlefields. They have succeeded in spite of — not because of — the system in which they operate. This paper steps outside of the presuppositions of the “logical pyramid” paradigm and considers afresh whether Marine Corps enlisted human capital practices deliver the greatest possible Fleet Marine Force (FMF)¹ capability for a given personnel budget.

Key findings

1. The Marine Corps committed to its current enlisted human capital paradigm in the mid-1980s to address a specific concern over fairness of promotion opportunities across military occupational specialties (MOSs) and a desire to reduce personnel costs by minimizing the career force (Marines with greater than four years of service).
2. Though all four services operate under common constraints, the Marine Corps' enlisted human capital philosophy is remarkably distinct. It appears to rest upon the unacknowledged presuppositions that Marines are easily replaced, that the trained career force must be “controlled,” and that high aggregate experience and personnel stability are unnecessary.
3. While all other services steadily increased the portion of their forces with greater than four years of service, the Marine Corps alone has consistently resisted doing so.
4. Over time, systemic career rewards and incentives led to a *de facto* prioritization of resources and high-quality noncommissioned officers (NCOs) to recruiting and entry-level training (ELT) at the expense of the FMF.

5. Presumptions of the superior physical fitness of a “young and lean” force are contradicted by the Marine Corps’ own fitness test performance data. Likewise, claims that junior Marines, who are predominately in their late teens, can exercise judgment under pressure comparable to more mature Marines have been decisively undermined by advances in neuroscience.
6. The existing system is profoundly wasteful of human capital, expelling three of four Marines at the very time when they have proven compatible with military service and are just entering their physical and mental primes.
7. The existing system is incapable of providing the more skilled and experienced force required to meet the 38th commandant of the Marine Corps’ Planning Guidance² and “Force Design 2030”³ goals. Absent a fundamental paradigm shift, transformation efforts will fail.

INTRODUCTION

Our manpower system was designed in the industrial era to produce mass, not quality. We assumed that quantity of personnel was the most important element of the system, and that workers (Marines) are all essentially interchangeable. As the complexity of the world has increased, the spread between physical jobs and thinking jobs has increased dramatically... We have not adapted to the needs of the current battlefield.

— General David H. Berger, commandant of the Marine Corps⁴

In 1962, physicist and philosopher of science Thomas Kuhn published his notion of the paradigm shift in his book *The Structure of Scientific Revolutions*.⁵ Kuhn argued that systems of knowledge form around groups of theories which adequately account for observed phenomena. As theories appear to explain observed events, they solidify into paradigms. Paradigms provide the basic presuppositions we accept as settled fact before we consider new data. Thus, before we examine new evidence, paradigms anchor our worldviews and limit which possibilities we will and will not consider. According to Kuhn, as new knowledge accumulates, we are eventually confronted by an undeniable mass of contradictory data that is irreconcilable with our paradigm. The resulting crisis of understanding compels us to relax pre-suppositional biases and accommodate the challenging new information. This leads to a “paradigm shift” which usually results in an explosion of discovery. Looking back after such paradigm shifts, one sees many instances of previously available information ignored under the previous paradigm.

The Marine Corps enlisted manpower management system needs a paradigm shift. The service appears to be straining to preserve its 1980s worldview against a rising tide of challenging evidence. Its system was designed during a bygone era under quite different circumstances. The presuppositions, logic, and rule sets of that system gradually gained unwarranted influence over senior leader decisions. The system became both self-referential and self-perpetuating. In time, adherence to an egalitarian “logical pyramidal grade structure” and the corresponding heuristic of low first-term retention grew to be of greater *de facto* importance than maximizing FMF readiness and stability. Rather than the process serving the Marine Corps, over time the Marine Corps bent to serve its process. Fundamental change is required if the Marine Corps is to fulfill the vision its 38th commandant, General David H. Berger, has articulated in his “Commandant’s Planning Guidance” and “Force Design 2030” foundational documents.

The purpose of this paper is to promote a deliberate reevaluation of the foundational presuppositions behind the Marine Corps’ enlisted manpower model. It examines enlisted force management from the perspective of human capital investment and return on that investment. This project began with the asking of a single question: *Does the Marine Corps enlisted manpower system deliver the greatest possible proportion of combat ready forces within the FMF for a given personnel budget?*

Seeking to understand the implications of the current system required examining the questions of the past from a fresh vantage. To gain perspective, it was necessary to step outside of the Marine Corps paradigm and scrutinize both human capital theory and the original economic studies that informed the architects of the AVF.⁶ Those sources contained repeated warnings of the wastefulness and inefficiency of high personnel turnover, especially within the closed labor pools of the military. As a baseline, this paper surveys the economic and narrative analysis which informed the design of the AVF. In examining the hidden fiscal costs of workforce disruption, a survey of management

science literature revealed overwhelming consensus that excessive turnover is contrary to organizational efficiency and performance. A detailed comparison of standardized Department of Defense (DOD) data of active duty enlisted force demographics, grade structure, experience, and turnover demonstrated the stark degree to which the Marine Corps differs from the other services. Analyses of the Marine Corps' own physical fitness and mishap cost data as well as recent neuroscience discoveries were found to contradict presuppositions of the current enlisted management model. Finally, a historical survey of internal Marine Corps studies and papers since the late 1990s showed that many in the service, including several previous commandants of the Marine Corps, were unable to improve the system when constrained by its existing paradigm.

Analysis herein is limited to the active duty component of the enlisted force. This paper is descriptive, not prescriptive. It limits itself to framing the choice confronting senior Marine Corps leaders and is intended as a prelude to a larger conversation. It cannot, should not, and does not provide detailed solutions.

Section 1 lays out the theory of human capital with specific focus on the purpose of investing in work force capabilities and retention of that work force to reap a profitable return. It begins with the general human capital theory from its foundation to the present by reviewing literature of management science. It then progresses to its specific application in the context of the all-volunteer military by relying heavily on the studies of labor economics prepared for the Gates Commission on the All-Volunteer Force. These studies wrestled with the balance between the costs and benefits of various turnover and retention rates.

Section 2 surveys the origins and evolution of the Marine Corps enlisted force management system in the AVF era. It focuses on the critical year 1985 in which the commandant committed the service to core assumptions which continue to circumscribe the Marine Corps' enlisted human capital worldview. From that year forward, the service's enlisted force system of systems has been conflicted by a triple mandate. First, it must preserve the egalitarian "logical pyramidal grade structure." Second, it must continuously replace a high volume of departing trained Marines with untrained recruits. Third, it must then strain to fulfill the human capital requirements of the FMF.⁷

Section 3 relies upon DOD and Marine Corps data for three objectives. First, it illustrates the uniqueness of the Marine Corps when compared to the other services. Second, it assesses the efficiency and cost effectiveness of the Marine Corps system from the perspective of human capital investment theory. Finally, it evaluates the Marine Corps' anecdotal assertion of the superiority of a young and junior force against empirical evidence.

Section 4 provides an overview of the recognition of the need for change among senior Marine leaders. Since 1998, various senior leaders have expressed frustration with the high-turnover system's shortfalls in meeting the needs of the FMF. This section illustrates their inability to affect change within the constraints of the existing paradigm.

Section 5 assesses the magnitude of the challenge at hand. It first describes the impediments to change facing the Marine Corps as a constraint-driven bureaucracy. Then, it describes the most prominent likely counterarguments to human capital modernization.

Section 6 synthesizes the paper's findings and frames the challenge facing the current commandant. It suggests basic presuppositions and goals which would form the basis of an alternative invest-and-retain system based upon increased retention of human capital which would lead to elevated force maturity, experience, and stability. Such a force would decrease the proportion of the force devoted to recruitment and entry-level training which, in turn, would increase the portion of the force within the FMF for any given personnel budget.

An important caveat: While this paper is a critique of the Marine Corps enlisted force management system, it is expressly not a critique of the tens of thousands of young patriots who enlist in the Marine Corps annually and serve the nation honorably. Likewise, it is not a critique of the dedicated manpower professionals within that system who have performed their duties admirably against difficult odds. In the words of former Secretary of Defense and Marine Corps General James Mattis, "When you've got good people competing against a bad process, the process wins every time."⁸

1. HUMAN CAPITAL THEORY AND THE ALL-VOLUNTEER FORCE

This section first provides a general description of human capital investment theory from a labor economics perspective. From that baseline theoretical framework, it then examines management science literature on the destructiveness of high workforce turnover to the accumulation of human capital. Having examined general human capital theory, it then examines specific human capital implications within the enlisted component of the AVF.

What is human capital?

Columbia University economist Gary Becker coined the term “human capital” in his seminal 1962 *Journal of Political Economy* article, “Investment in Human Capital: A Theoretical Analysis.” According to Becker, organizations invest in human capital “to improve the physical and mental abilities of [their] people.”⁹ This paper adopts the Oxford definition of human capital as “the skills, knowledge, and experience possessed by an individual or population, viewed in terms of their value or cost to an organization.” As such, human capital investments increase an employee’s value to the organization by increasing the proficiency and productivity of the workforce.¹⁰ Thus, firms increase the human capital of their workers to ensure they remain competitive against peers within their market sector. To remain profitable within a Darwinian marketplace, commercial firms must achieve a high return on human capital by retaining skilled workers long enough to recoup the time and money invested in workforce development.



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Becker distinguished between two types of training through which organizations invest in their employees. *General training* provides skills that are broadly marketable to many alternative employers. By contrast, *organizationally-specific training* is useful only within a specific firm or narrow industry. From the employer’s perspective, organizationally-specific training is more valuable than general training since potential replacement workers with general skills are readily available within the labor market. It is thus particularly important for employers to ensure a profitable return on investment (ROI) through retention of organizationally-specific skills. To do so, “rational firms pay... specifically trained employees a higher wage” than those with more general skills.¹¹

Becker also observed that, compared to formal training, on-the-job training (OJT) is inefficient and only increases productivity gradually over an extended period of time. Reliance on OJT lowers group productivity due to the diverted, inward attention of experienced personnel focused on training and supervising new employees. Further, until all members are proficient, groups reliant on OJT are required to limit performance to less-complex tasks.¹² Reliance upon OJT also reduces efficiency due to lower output and increased error rates among novices. Thus, excessive use of OJT retards collective organizational proficiency. This is especially true in firms with high turnover among the junior workforce since frequent turnover guarantees that a prominent portion of the workforce is constantly under OJT.

Human capital costs and consequences of high turnover

Some amount of turnover is required for regeneration within every organization. Employees quit, are fired, retire, burn out, or die in even the most efficient firms. Turnover itself is not a bad thing. Unnecessary turnover, however, is a self-inflicted injury to organizational performance. It diverts more money and manpower than necessary to hiring and ELT efforts. These hiring and training tasks consume resources without directly contributing to an organization's productivity.

The challenge for executives and labor economists is to determine the optimum level of turnover that will deliver the greatest possible human capital ROI for a given personnel budget. Leaders can then design deliberate personnel management processes and incentive structures to achieve the desired retention-turnover balance. Let us further investigate the costs and consequences of turnover within the modern, knowledge-based economy.

There is a vast body of academic management science literature on the negative impacts of high workforce turnover. In a groundbreaking 2011 study of the topic, John Hausknecht of Cornell University and Charlie O. Trevor of the University of Wisconsin-Madison determined that “collective turnover can lead to undesirable outcomes because it entails the loss of firm specific human and social capital, disrupts operations and collective function, saddles remaining members with newcomer socialization and training, and increases recruitment and selection costs.”¹³ Unnecessary turnover is both fiscally wasteful and a drag on institutional performance.

Following Hausknecht and Trevor, a team of five management professors published a 2013 collaborative meta-analysis of peer-reviewed articles on the impact of high workforce turnover in the *Journal of Management*. Their findings confirmed “a significant negative relationship between turnover and organizational performance” and offered two additional insights.¹⁴ First, the authors noted the negative impacts of turnover have been amplified in recent decades by the shift from an industrial to a knowledge-based economy. In globalized, 21st-century economies, the “consequences of turnover are vastly different than yesteryear. Instead of replacing low-skill, easily trainable, inexpensive workers, turnover in a knowledge-based economy translates into specific skillset needs, more advanced training needs, and increased wages for educated, knowledgeable, skilled employees.”¹⁵ Second, the authors observed that the negative impact of turnover is amplified in skilled jobs specific to an organization or industry. As a result, cumulative “firm-specific human capital losses... are particularly costly.”¹⁶ In other words, collective losses of personnel adept in organizationally-specific skills are particularly costly in terms of money, productivity, and performance. Any system that embraces the discarding of qualified personnel in favor of untrained replacements sabotages its own effectiveness.

TABLE 1: INDUSTRIAL VS. KNOWLEDGE-BASED ECONOMIES

	Industrial economy	Knowledge-based economy
Characterized by	<ul style="list-style-type: none"> • Low organizationally-specific skill requirements • Qualified workers are plentiful, basically interchangeable, and highly expendable with respect to organizational success • Minimal training required for new entrants 	<ul style="list-style-type: none"> • High organizationally-specific skill requirements • Qualified workers are scarce and organizational success is dependent upon aggregate individual worker performance • New entrants require a significant training investment to become valuable to the organization
Appropriate when	<ul style="list-style-type: none"> • Numerous analogous skills reside within the pool of potential replacements • Plentiful qualified replacement pool • High propensity to join the organization among qualified potential replacements 	<ul style="list-style-type: none"> • Directly analogous skills are scarce — either due to an absence of like jobs or to an elevated market demand for relevant skills which makes them highly compensated by competing organizations • Dearth of qualified potential replacements • Low propensity to join the organization among qualified potential replacements
Suited for	<ul style="list-style-type: none"> • Fast food workers, restaurant wait staff • Landscaping • Grocery checker or stocker • Call center operator • Delivery person • Rideshare driver • Etc. 	<ul style="list-style-type: none"> • Restaurant manager • Law enforcement officer / first responder • Technician (computer, electronics, etc.) • Educator • Medical service provider • Repair (refrigeration, welding, plumbing) • Etc.

Source: Created by the author.

There is robust consensus within management science literature that high workforce turnover is costly for three primary reasons. First, high turnover creates direct and indirect fiscal costs which the organization would not incur if the dismissed employee were retained. Direct costs consist of pay and benefits owed to the outgoing employee and the costs of recruiting, moving, training, and equipping the untrained replacement.¹⁷ Second, high turnover also incurs equally real but difficult-to-quantify costs in the form of lost knowledge and skills which outgoing employees have accrued through costly training and experience and which they carry with them out the door. Third, social capital is lost as relationships are broken when separations disrupt cohesion, familiarity, and implicit trust among members.¹⁸ After researching turnover costs, scholars at the Center for American Progress summarized as follows:

“Maintaining a stable workforce... can result in significant cost savings to employers... Indeed, it is costly to replace workers because of the productivity losses when someone leaves a job, the cost of hiring and training a new employee, and the slower productivity until the new employee gets up to speed... Jobs that are very complex and require higher levels of education and specialized training tend to have even higher turnover costs.”¹⁹

Military human capital within the All-Volunteer Force

The fiscal costs and productivity disruptions of unnecessarily high turnover are universally understood to be wasteful and damaging to organizational performance in general. Let us now examine human capital implications specific to the AVF military labor market.

Since 1775, the United States has alternated between long periods of a volunteer military punctuated by four iterations of conscription: the Civil War, World War I, World War II, and the Cold War period from 1948-1973.²⁰ The current AVF began as a campaign promise by Republican nominee Richard Nixon during a CBS radio address less than three weeks before the 1968 presidential election. It was a final effort to leverage anti-war sentiment within a hotly contested national election.²¹ To implement his campaign promise, the new president established the President’s Commission on an All-Volunteer Force (hereafter Gates Commission) on March 27, 1969, appointing former Secretary of Defense Thomas S. Gates as its chairman.²²

From the outset, the core problem confronting the Gates Commission was how to best tailor the monetary and non-monetary incentives of a volunteer military to deliver the greatest combat power for a given personnel budget. The key challenge was how to optimize the balance of retention and new accessions. To tackle the problem, Gates assembled some of the best economists in the world. Among the committee’s 15 members were Milton Friedman, who later won the Nobel Prize, and Alan Greenspan, who later served as chairman of the Federal Reserve. Additionally, the executive director, deputy executive director, all four of the committee’s directors of research, and several research project leaders were notable professional economists.²³ The balance of the committee and staff was composed of accomplished business leaders, ethnic minority leaders, secondary educators, and field grade military officers.²⁴ Given that economics is the study of the allocation of scarce resources which have alternative uses, the prevalence of economists on the commission was advantageous for studying the interdependence of money and human capital with a volunteer force.²⁵

These Gates Commission economists soon well understood that an affordable, highly capable volunteer force was predicated upon an appropriate balance between turnover and retention of skilled human capital.²⁶ The committee assigned the specific problem of turnover to Dave M. O'Neill of the Center for Naval Analyses (CNA). O'Neill summed up the challenge before his team as follows:

*“...holding the stock of resources [end strength] constant, the level of capability realized is critically dependent on the retention rate of uniformed personnel. The greater the annual separation rate, the greater must be the annual flow of new force accessions in order to maintain a given strength level. However, new recruits have to be processed in, trained, deployed to operating units and then trained on the job. In addition, force separations have to be shipped back from operating units and mustered out of active duty. All of these activities absorb resources and add to the cost of obtaining a given level of defense capability.” [emphases added]*²⁷

O'Neill went on to observe that increasing retention of skilled personnel would likely raise pay and benefits due to more experienced members. While inadequate retention was clearly recognized as a mortal hazard to the AVF, over-retention might lead to an unnecessarily expensive force for a given capability. From an economic standpoint, there was such a thing as an overly experienced force if the level of experience significantly exceeded requirements. Increased pay and benefit costs of a more mature force could only be meaningfully evaluated against an accurate understanding of the costs of turnover within the force. Only after both costs were known could one determine the “optimum level of retention sought after.”²⁸



While inadequate retention was clearly recognized as a mortal hazard to the AVF, over-retention might lead to an unnecessarily expensive force for a given capability.

To better conceptualize the hidden costs of turnover within military formations, O'Neill leveraged the contributions economist Gorman C. Smith had made in his 1964 Columbia University Ph.D. thesis. Gary Becker, the father of human capital theory mentioned above, had been Smith's dissertation supervisor. Smith set out to “apply a part of Becker's theory to the military first term retention situation.”²⁹ His purpose was to discover the least costly way to purchase an optimum level of military effectiveness for a given force size. He was seeking to answer the question: Given a fixed enlisted personnel budget, what policies will maximize the military effectiveness of that force?³⁰

Noting that “training is a form of investment,” Smith evaluated the inverse relationship between accessions and training costs against the duration over which trained enlisted personnel provided a return on that investment.³¹ Smith made three key contributions relevant to this paper. First, he framed the concept of return on training investments over the duration of post-training military service. Second, he attempted to itemize and categorize the variable contributors to true personnel costs other than a simple static comparison of pay and benefits for competing force structures. Third, he studied the economic and operational impacts of post-school, operating force OJT.³²

Smith observed that higher turnover negatively impacts operational readiness in two ways. First, a low retention rate depletes the accumulated proficiency and experience resulting in reduced operating force capability. Second, higher turnover also reduces the capacity of that residual, less-experienced operating force by increasing the proportion

of a service's end strength that must be devoted to recruitment and ELT. Said Smith, "Higher retention, then, permits both larger and more effective operating forces from a given resource input."³³ Reflecting on the topic further, Smith concluded, "Since the military's *raison d'être* is to be able to operate, it would almost be derelict if, under these circumstances, it did not prefer careerists to first-termers" [emphasis in the original].³⁴ Augmenting O'Neill and Smith, renowned economists Walter Oi and Brian Forst observed, "The size of the active duty forces is not directly proportional to defense capability." A military service's training command comprises the bulk of internally-focused capital making up what they called the "non-effective tail."³⁵ Oi and Forst continued, "A lower personnel turnover would permit a reduction in the size of the non-effective tail needed to sustain any given effective strength of trained men assigned to combat and logistical support units."³⁶ These authors stressed that the costs required for a training command are driven first and foremost by the rate of turnover, then by the required student-to-faculty ratio, and the duration of training.³⁷

Recognizing the economic imperative to increase return on human capital investment within an AVF, Oi and Forst recommended longer initial enlistment contracts as a rule. They cited the contemporary example of the British Army and Air Force which had ceased conscription a decade earlier in 1960 and had seen fit to extend their initial enlistment contracts from three to five years. In the British case, longer enlistment contracts, "made it profitable to provide more entry-level training... if the typical recruit can be expected to remain in the force for seven rather than five years, some advanced technical training can be pushed to the entry-level training course thereby raising the soldier's productivity." From their perspective as economists seeking the most efficient use of scarce funding and human capital, they reasoned, "From the viewpoint of the demand for military manpower, it seems desirable to lengthen initial terms of service, at least for those occupational specialties entailing high training costs."³⁸

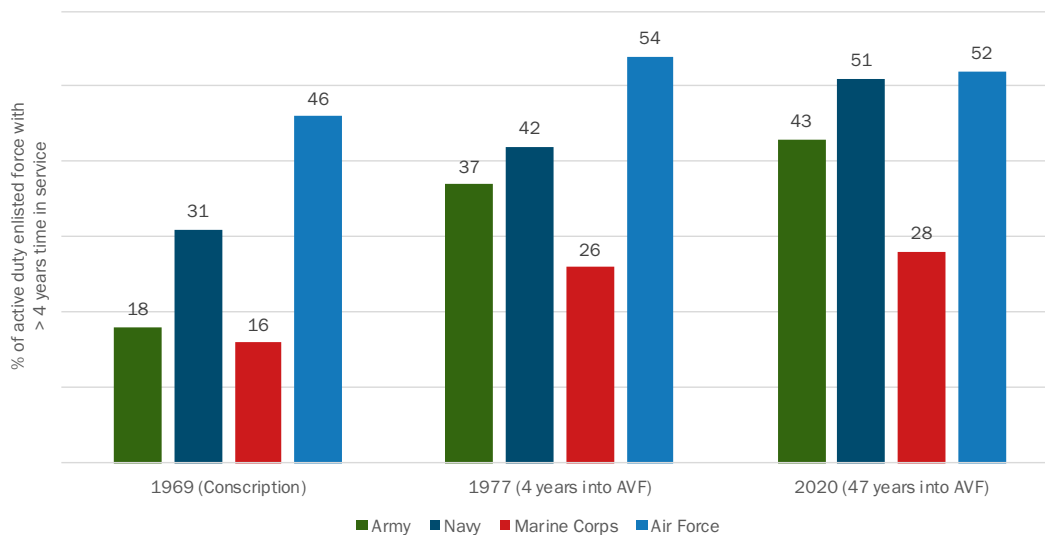
Like his peers, Gorman C. Smith also observed that for a given force size, higher turnover retards operational effectiveness by requiring a larger portion of the force to be dedicated to the recruitment and training of replacements. He also noted the obvious corresponding degradation of effectiveness due to the discarding of experienced members and replacement with inexperienced ones, writing, "Low retention means high personnel turnover. This guarantees low experience levels in the operating forces and, to the extent that experience contributes to effectiveness, less effectiveness for a given size force."³⁹

The more costly the training required to produce a combat ready member, the more a military service benefits from retaining each member for either extended service or reenlistment. From an economic standpoint, the conclusion was self-evident to Smith: "An immediately obvious solution is to make the period of obligated service longer... so the military would have a longer period over which to realize the returns on its training investment."⁴⁰

Thus, after intensive study and analysis, the architects of the modern AVF were convinced that the military services would need to increase retention by reducing annual turnover, minimize required annual accessions, and lengthen average service duration. Only then could services minimize personnel and money devoted to the recruitment and training of new personnel. This would allow the greatest proportion of money and manpower to be devoted to combat-ready operating forces.

Following the 1973 implementation of the AVF, the Army, Navy, and Air Force all responded to market pressures to economize human capital by steadily raising the percentage of their enlisted force with greater than four years' time in service as predicted by the Gates Commission economists. Writing in 2006, former undersecretary of defense for manpower and reserve affairs and longtime RAND Corporation military personnel policy expert Bernard D. Rostker observed, "Probably the most important change in the all-volunteer force has been the professionalization of the military as retention increased and as the services were able to devote fewer resources to training new personnel." Rostker further pointedly noted, "The exception is the Marine Corps, which restricts reenlistments to about 25 percent of those eligible to reenlist to maintain the desired force profile."⁴¹

FIGURE 1: AVF PROFESSIONALIZATION THROUGH INCREASED RETENTION OF EXPERIENCE



Source: Bernard D. Rostker; U.S. Department of Defense⁴²

In 1969, prior to the AVF, only the Air Force and Navy retained sizeable career enlisted forces. The Vietnam-era Army and Marine Corps were consistent with enlisted force proportions greater than four years of service (YOS) at only 18% and 16% respectively. By 1977, just four years into the AVF, the Army had more than doubled its over-four-YOS percentage from 18% to 37% while the Marine Corps had increased 10 percentage points to 26%. From 1977 onward, the Army, Navy, and Air Force all continued to steadily increase the proportion of their enlisted force with more than four YOS which enabled them to reduce the proportion of end strength and budget devoted to accessions and ELT. The Marine Corps is the only service which has remained committed to a low first-term retention percentage through 43 years of AVF experience. We will next examine why.

2. THE MARINE CORPS' COMMITMENT TO LOW RETENTION AND HIGH TURNOVER

This section examines the evolution and peculiarities of Marine Corps management of enlisted human capital. It first provides an historical overview of major milestones and enlisted force management decisions since the advent of the AVF. It then provides descriptive analysis of the relative inefficiency of the high-turnover model from the perspective of ROIs in human capital.

Recognizing that performance and capability must be balanced against available resources, O'Neill perfectly summarized the challenge still confronting the Marine Corps today, "the problem of deciding on the best or optimum force retention rate involves balancing savings in the costs of turnover against the additional amounts that have to be spent on increasing compensation, fringe benefits, and improving working conditions in order to induce enlisted personnel to remain in the force for a longer period of time."⁴³ The Army, Navy, and Air Force, as well as Special Operations Command, all adapted to the AVF by increasing first-term retention for greater ROI.⁴⁴ The Marine Corps instead doubled down on its commitment to a junior force structure with the highest annual rate of turnover, where only one in four enlisted Marines has greater than four years of service.

As illustrated by Figure 1 above, during the first years of the AVF era, the Marine Corps initially increased retention and grew the portion of the force with greater than four years of service by 10% between 1969 and 1977, from 16% to 26%. Thereafter, the Marine Corps maintained consistently low retention of first-term Marines and high annual turnover as fundamental principles of its enlisted force management policies.

Marine Corps leaders made two key decisions in 1985 which firmly established the core presuppositions and logic that continue to define enlisted management processes today. First and foremost, the service made a philosophical commitment to minimize its career force, Marines who had reenlisted at least once, in favor of a preponderance of Marines who would serve only a single enlistment. This decision institutionalized high annual turnover of junior Marines with limited training and minimal experience. Second, the commandant of the Marine Corps directed that enlisted grade structure be shaped to standardize promotion rates across different military occupational specialties (MOSs).⁴⁵ This was primarily motivated by a sense of fairness and equality of outcome rather than FMF human capital requirements for combat readiness.⁴⁶



In 1985, the Marine Corps made a philosophical commitment to minimize its career force, Marines who had reenlisted at least once, in favor of a preponderance of Marines who would serve only a single enlistment.

In January 1985, the Department of Defense became concerned about the budgetary implications of growing career force costs within the AVF. The services had been experiencing greater retention success than anticipated by the economists of the Gates Commission. The assistant secretary of defense (manpower, reserve affairs, installations and logistics) published a Pentagon instruction requiring all services to provide standardized enlisted personnel management plans to the department. This instruction sent a clear signal of concern over costs stating, "The high annual cost of enlisted personnel, and the maintenance

of a volunteer force require the establishment and maintenance of Enlisted Personnel Management Plans that provide greater visibility of Military Service objectives.” Each service was required to identify its “Program Objective Force” defined as, “An achievable enlisted personnel force identified by grade and years of service, which supports accomplishment of the Military Service missions.” The instruction also required the services to report, as a percentage of the active enlisted force, their “over-four component,” “under-four component,” and the quantity of the force within the “top 6” enlisted ranks.⁴⁷ By mandating a standardized Enlisted Personnel Management Plan system, the Pentagon had created a public report card by which the services would be measured. The implicit message was clear: Control unnecessary personnel costs. Reduce the over-four-year component. Minimize the proportion of the force within the top six enlisted grades (E-4 through E-9). Ever sensitive to portray itself to the American public and Congress as a uniquely affordable and relevant force, the Marine Corps embraced the implied message of the Department of Defense instruction.⁴⁸

That same year, the 28th commandant of the Marine Corps, General P.X. Kelley, became convinced that Marines of differing MOSs should have roughly equal promotion opportunities and should advance in rank at a similar pace. Marines across different MOSs were being promoted at widely varying times in service and times in grade. This was perceived as fundamentally unfair and was a real problem for individuals within lagging MOSs, especially within the up-or-out retirement system of that day.

From 1970 to 1985, the Marine Corps had based enlisted promotion opportunities on estimated future vacancies within each given occupational field. Such forecasts, however, had proved difficult. Over time, some MOSs enjoyed very rapid advancement through the ranks while promotion opportunity stagnated in others. There developed a conviction that “The most simple and equitable promotion system is one where all Marines in a lower grade compete for vacancies in the next higher grade regardless of MOS... the way the Marine Corps did business up until 1970.”⁴⁹

The commandant believed it was unfair to allow such divergent career outcomes across different MOSs. General Kelley “directed that the promotion system provide every good Marine with roughly the same opportunity for advancement to master sergeant in a 20-year career.” But one major obstacle stood in the way, “Before equitability could be provided... the wildly differing shapes of the grade ‘pyramids’ between MOSs” had to be corrected.⁵⁰

To implement Kelley’s vision, the Marine Corps conducted in 1985 an Enlisted Grade Structure Review (EGSR). That review entered deliberations with a consensus opinion that “Marines will more likely remain on active duty when promotion opportunities are visible.” The EGSR was a five-month collaborative effort conducted by a combined team of manpower planners and representatives from the FMF. The purpose of the EGSR was “to ensure that each MOS has a logical pyramidal shape that facilitates equal promotion opportunity in a timely manner across the Marine Corps.”⁵¹

Three elements of Kelley’s decision are notable from a human capital perspective. First, though the labor marketplace and incentive structures were fundamentally different under the new AVF, Kelley directed a return to conscription-era practices of 1970. Second, directing the “same opportunity for advancement” regardless of MOS was fundamentally focused on imposing equality of outcomes. While perhaps laudable, this goal was not primarily focused on experience and combat effectiveness — indeed,

promotion opportunity was explicitly prioritized over the human capital requirements of the FMF. Third, the promotion philosophy behind the “logical pyramid” led manpower planners to maintain an unnecessarily broad base of junior enlisted, first-term ranks.

Coincident with the EGSR, the service created its Enlisted Career Force Controls (ECFC) Program which remains in effect today. The name of this program provides insight into the overall mindset of this paradigm. It explicitly “controls” the number of Marines with greater than four years of experience. Marine Corps explanations of this program declare that ECFC represented “an effort to curb our escalating career force growth.” Officially, the two goals of the ECFC program are to: “1) actively shape the inventory of Marines by grade and MOS to the requirements of the Corps, and 2) *control retention in order to standardize promotion tempo across all MOSs*” [emphasis added].⁵² Retention of experience and maximizing the number of qualified Marines in the FMF were notably absent concepts within the ECFC program’s stated purposes.

The Marine Corps formalized an Enlisted Grade Shaping process. Since then, routine reviews have continued “to ensure each MOS has a pyramid-shaped structure.” Enlisted Grade Shaping has two goals. First, it facilitates “Marines being promoted at the TIS [time in service] targets for each grade.” Second, it “defined a logical career path that is achievable through the manpower process.”⁵³

The Marine Corps codifies the human capital requirements of its force design by establishing approved Tables of Organization (T/Os) for each unit within the service. Manpower planners and managers then seek to fill those T/Os with qualified Marines at the right rank and experience. Ideally, T/Os would be defined by the actual human capital requirements of the force. Yet under enlisted grade shaping, the Marine Corps explicitly states “MOS specialists and [occupation field] sponsors are now charged with ensuring that T/O changes do not adversely affect the grade shape of their MOS’s.”⁵⁴ Thus, no matter the objective requirements of the given force design, Marine Corps manpower planners and managers are directed to preserve the logical pyramid grade shape to preserve equality of promotion outcomes across MOSs. *The pyramid comes first.*

A commitment to cap the retention of successful, trained first-term Marines at around 25% and discharge the rest ensured the highest per capita annual accessions requirement and ELT throughput of any service. To sustain this effort, the Marine Corps devotes high numbers of its best young career Marines away from the FMF to Special Duty Assignments (SDAs) as recruiters, drill instructors at boot camps, and combat instructors at entry-level Schools of Infantry. Promotion board precepts and favorable career outcomes for career Marines with SDA assignments soon established a clear institutional signal that SDA duty was more profitable than leading within the FMF.⁵⁵ Rather than a system devoted to delivering the greatest combat power and base of experience to the FMF, the Marine Corps enlisted system evolved to one dedicated to preserving the logical pyramidal structure across MOSs, ensuring all Marines were promoted on roughly the same schedules, and preventing excessive enlisted retention that would distort the model.

Also in 1985, the Pentagon conducted a large study to determine which variables most influenced retention decisions among both service members and spouses. This “DOD Survey of Officer and Enlisted Personnel” was intended in part to determine “factors affecting readiness and retention of active duty personnel.”⁵⁶ In 1988, Captain Thomas A. Finn devoted his Naval Postgraduate School thesis to investigating Marine Corps

enlisted responses to the DOD survey. Finn found that job satisfaction was the only strong variable attributable to both first and second term decisions to reenlist. There was no indication that grade-shape promotion opportunity within one's MOS was an important factor in first-term retention. Rather, job satisfaction, marital and minority status, and the civilian labor market were the only significant causal variables related to increased first-term retention. While he did find that the actual achievement of promotion was significant as a factor for Marines to decide to stay at the end of their second enlistments, Finn found no evidence that a uniform grade structure or a bottom-heavy grade distribution would improve retention.⁵⁷ In short, the 1985 DOD survey data did not support the Marine Corps' 1985 argument for the logical pyramid.

Over the years, Marine researchers examining the costs and benefit tradeoffs between retention and turnover have been fully aware of the dynamics at hand. Captain Sean Kerr's 1997 master's thesis provided detailed analysis of enlisted retention. Kerr noted that increased retention "means enhanced experience base, increased productivity, and increased readiness." At the same time, "any significant reduction in retention rates would create a shortage of experienced personnel" while "associated costs for advertising, recruiting, and training represent defense dollars that could be better spent on other requirements."⁵⁸

Kerr reviewed 10 civilian and 11 military academic studies on the implications of turnover on organizational costs and productivity. Echoing earlier conclusions by Oi, O'Neill, Smith, and others, Kerr observed, "turnover tends to increase the costs associated with recruiting, training, and assimilation. The organization can also experience a loss of productivity, disruption in the work environment, and decreased satisfaction among those who stay... Excessive voluntary turnover is detrimental to any organization because of the monetary and psychological costs incurred."⁵⁹ Thus, Kerr's conclusions in 1997 were perfectly aligned with earlier civilian and military studies on the negative impacts of high turnover.

His analysis of the specific implications of military turnover was based upon 11 studies of military retention behavior conducted between 1984 and 1995. None of these studies identified equitable promotion time or uniform grade structure distribution as an explanatory variable for enlisted retention. The 21 peer-reviewed studies which informed his thesis all agreed on the negative consequences of high turnover. None advocated for anything like a bottom-heavy grade structure or limiting first-term reenlistment opportunities to 25%, which continue to define Marine Corps enlisted management.

Once the service committed to high turnover as the organizing principle of enlisted manpower management, the logical pyramid, rather than manpower stability and readiness within the FMF, became the driving measure of effectiveness. By 1990, Sergeant Major of the Marine Corps David W. Sommers testified to the merits of low retention before the Senate Appropriations Committee. The committee noted the Marine Corps' "perfect pyramid" enlisted grade structure and asked how the Marine Corps would do to "make sure that NCO strengths remain in alignment?" Sommers explained that the service carefully "manages the number of Marines entering the Career Force" and that one of the system's primary goals was to ensure "career equitability."⁶⁰

Once committed, the Marine Corps required a convincing narrative to justify its unique model. To justify its low first-term retention, a cultural myth of a "young and lean" force rose to prominence among service leaders and spokespersons. This was particularly true as all three other services systematically professionalized, making Marine enlisted

management stand out in comparison. To rationalize such a junior grade structure, Marine leaders implied that the service possessed a unique ability to achieve more productivity from its junior ranks than the other three services. This narrative became prominent during the tenure of General Charles C. Krulak as commandant in the late 1990s.

In 1998, Assistant Commandant of the Marine Corps General Richard Neal extolled the youth and inexperience of the Marine Corps enlisted force in testimony before Congress:

“Given the missions of a force in readiness, you need an organization that is relatively young and lean. Only 52 percent of our enlisted force is in the top six enlisted grades (E4 and higher), compared to approximately 70 percent or higher for the other three Services⁶¹... All of these factors provide for a significantly less expensive force, and allow our Marines to exercise more responsibility, initiative, and leadership. This later point is totally consistent with our belief that Marines are the key to our success.”⁶²

Yet in literally his next sentence, Neal bemoaned the difficulties of recruiting qualified Marines stating, “It is becoming increasingly difficult to find well-qualified applicants.” The assistant commandant was committed to presuppositions that youth, junior rank, and a bottom-heavy force structure — and the high annual force turnover thereby required — were inherently good. Increased retention and force maturation seem to have been inconceivable as alternatives within the now cemented organizational paradigm. The answer was to simply recruit harder. Continued Neal, “To ensure the necessary flow of quality recruits, we must maintain a solid team of recruiters... And just like we have been forced to move more money into our maintenance accounts, so too we must arm our recruiters with the support and resources required to allow them to continue to meet their goals.”⁶³

General Neal’s testimony illustrates the three institutional myths which result from an unquestioning commitment to “fair” career paths and the logical pyramid. First, Neal perpetuated the “young and lean” myth that a force built predominately of Marines in their late teens and early twenties is inherently more suited for “the missions of a force in readiness.” This claim will be addressed empirically in Section 3 below. Second, the assistant commandant touted in the disparity between Marine Corps junior-heavy, first-term grade structure and the other services. This implied that the Marine Corps possesses some special alchemy whereby Marines in their first enlistment are able to “exercise more responsibility, initiative, and leadership” than are soldiers, sailors, or airmen in their second enlistments. Third, Neal claimed the Marine Corps were a “significantly less expensive force,” implying that the Marine Corps is cost efficient where the other services are unnecessarily profligate. *Since 1985, these three assertions have become indelible elements of the Marine Corps’ internal and external branding. They are the story the Marine Corps tells itself, Congress, and the American public.*

During his own 1998 congressional testimony which relied upon 1997 data, Sergeant Major of the Marine Corps Lewis G. Lee, sitting beside the senior enlisted leaders from the other services, proclaimed “I guess I am unique... I have such a large, first term force that I can only retain a very small percentage of my first term force... of the 110,000 who serve on the first term, no more than 18,000 of them can enter what we call the career force. I have far greater numbers of Marines who want to stay in the Marine Corps than 18,000.”⁶⁴ These remarks reveal just how entrenched the 1985 logical pyramid premise had become engrained into the Marine Corps paradigm by 1998.

There were 174,800 active duty Marines in 1997. Of those, 156,200 were enlisted.⁶⁵ By Lee's numbers, more than 70% of all enlisted Marines were on their first enlistment and thus fewer than four years' experience. Lee's assertion that he could not accommodate any "more than 18,000" demonstrates the degree of the anti-careerist bias symptomatic of the bottom-heavy, young-and-lean mindset. While nothing about the logical pyramid was mandated from outside the organization, the sergeant major of the Marine Corps believed that he was only able to retain one of every six enlisted Marines beyond four years of service and experience. In fact, deliberately low retention was a byproduct of choice carried forward from the 1985 mandate.⁶⁶

To gain an appreciation of the remarkable persistence of the logical pyramid paradigm, it is worth reflecting just how much has changed since it was established in 1985. President Ronald Reagan was just beginning his second term. The Reykjavik summit which precipitated the end of the Cold War was still a year away. It would be two years before Reagan delivered his "tear down this wall" speech and the Berlin Wall would not fall for another two after that. The Iran-Contra scandal had not yet broken in the news. The Senate began hearings into the potential reorganization of the Department of Defense which later resulted in the 1986 Goldwater-Nichols reorganization.

On the technology front, 1985 was the year Microsoft created its first version of the Windows operating system. The Apple Macintosh personal computer was less than a year old. Five-and-one-quarter inch floppy disks were being replaced by new three- and one-half inch variants capable of holding up to 1.44 megabytes of data. Compact discs had been available to the public for fewer than three years. The DynaTac 8000x "white brick" was the only commercially available cellular phone. Disposable film cameras had not been invented; they first appeared in 1987. The inaugural international conference on AIDS was held at the Centers for Disease Control in Atlanta to address the emerging epidemic. Larry Bird was the NBA MVP. Michael Jordan began his second professional season. "Back to the Future" was the highest grossing American movie and "Murder She Wrote" was the leading primetime drama series.

The Marine Corps of 1985 was beginning to field the M16A2 service rifle, the M-198 howitzer, and the first high mobility, multipurpose wheeled vehicles (HMMWVs). The first Marine Corps AV8B Harrier squadron became operational. The commandant approved the future acquisition of the M1A1 tank; deliveries would begin in 1989. The service took delivery of its first Light Armored Vehicles (LAVs). The Marine Corps reinstituted the 13-man infantry rifle squad. It had been less than two years since the bombing of the Marine barracks in Beirut. In April, the commandant ordered the institutionalization of the Marine Air Ground Task Force (MAGTF) concept creating standing headquarters for three Marine Amphibious Forces (MAFs), five Marine Amphibious Brigades (MABs), and four Marine Amphibious Units (MAUs). The Marine Corps Uniform Board mandated the wear of olive drab undershirts to replace white undershirts with the camouflage uniform. Colonel Gail M. Reals became the first ever female Marine Corps brigadier general.⁶⁷ The first version of "Fleet Marine Force Manual-1: Warfighting," which codified maneuver warfare doctrine, would not be published until four years later in 1989.

Much has changed in geopolitics, technology, American society, and the Marine Corps since 1985; the service paradigm underlying enlisted manpower management has not. The Marine Corps emerged from 1985 fully convinced of the merits of high enlisted turnover and a low training and experience base. The imposition of the logical pyramid

grade structure across MOSs in the name of guaranteeing equality of outcomes had the effect of validating the need for large numbers and high turnover of junior, first-term Marines with minimal training and experience.⁶⁸

These low human capital presuppositions remain the bedrock of the Marine Corps enlisted management paradigm. Any attempts to change the system from within the constraints of the logical pyramid mandate will fail. If the service desires to change, it will have to re-establish first principles strictly focused on FMF warfighting proficiency requirements.

The 1985 EGSR effort and resulting enlisted personnel management processes effectively addressed the perceived problems of their day. Chief among these was the asymmetry of career opportunities across MOSs. These policies, however, generated unintended consequences. The underlying ECFC presuppositions appear to have become a form of received wisdom within the Marine Corps' ranks. Having been left unchallenged for the past 36 years as the world and American society evolved dramatically, the ECFC appears to have evolved into a system of systems which created an ever-tightening Gordian knot of escalating commitment.

The problems of 2021 are not the problems of 1985. The current Marine Corps enlisted management system creates high turnover, low human capital investment, disruption of FMF unit stability, diversion of fully trained noncommissioned officers and staff noncommissioned officers away from FMF units, and disproportionate resource expenditure on accessions and ELT. Without a fundamental reexamination of first principles, the Marine Corps will find itself locked into its industrial recruit-and-replace model which is unfit for both the knowledge-based labor market and the more highly trained and experienced force required of its emerging warfighting concepts and force design.

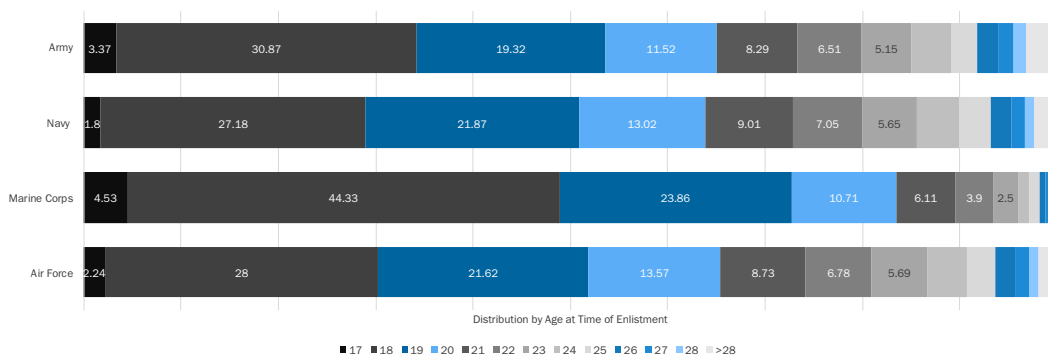
3. PERFORMANCE AND READINESS IMPLICATIONS OF A YOUNG FORCE

After the Marine Corps decided to be young and lean in the AVF era, it developed after-the-fact mantras to justify its youthful and inexperienced force structure. These mantras are oft repeated on Capitol Hill and across Washington, proclaiming that young Marines are physically more capable and that the Marine Corps achieves equivalent leadership and decision making from E-3s and E-4s for which other services require higher ranks. This section will first put the relative youth and immaturity of the Marine Corps' enlisted structure in perspective by comparison to the other services. It will then compare claims of superior physical fitness and decision making by young Marines against scientific consensus and available empirical data.

The Marine Corps has chosen to be dramatically younger than other services

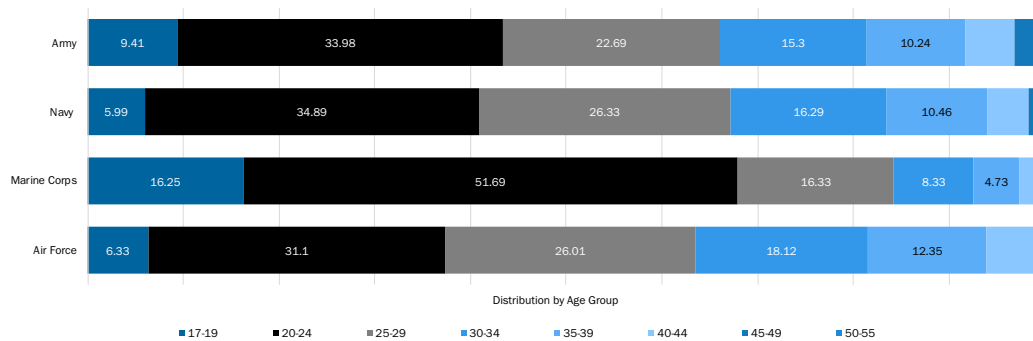
Being different does not prove a thing is better or worse; however, extreme differences in models among organizations with the same set of constraints should draw focused attention. The Marine Corps' deviations from other services in age and enlisted rank distribution are extreme. Marine Corps enlistees are significantly younger. Per Figure 2 below, 49% of all Marine Corps enlistees are 17 or 18 years old at enlistment. An additional 24% are 19. Thus, fully 73% of all new Marines enlist as teens. The next closest service is the Army with 54% teen enlistments.

FIGURE 2: COMPARISON OF AGE AT TIME OF ACTIVE DUTY ENLISTMENT (FY2016)



Source: Office of the Under Secretary of Defense, Personnel and Readiness⁶⁹

As demonstrated by Figure 3 below, the Marine Corps has almost twice as many teenaged members as a percentage of the enlisted force as the next closest service, the Army. Additionally, more than half of all enlisted Marines are between ages 20 and 25 where the other services are uniformly around one-third in the same group. Overall, 68% of the Marine Corps enlisted force is below the age of 25. The under-25 enlisted percentages for the other services are as follows: Army, 49%; Navy, 41%; and Air Force, 37%. More than 84% of the Marine Corps enlisted force is below the age of 30.

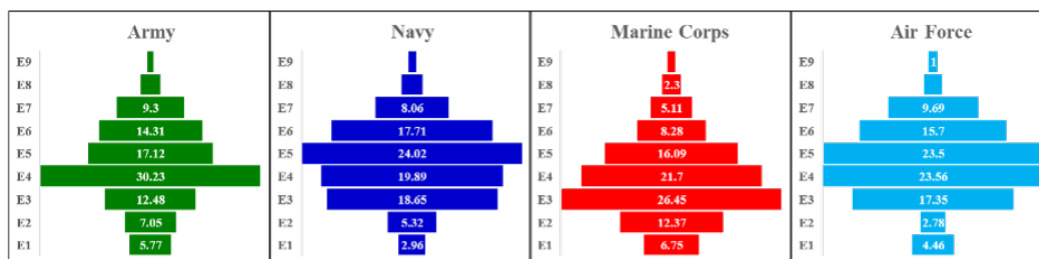
FIGURE 3: COMPARISON OF AGE DISTRIBUTION OF ACTIVE ENLISTED STRENGTH (FY2016)

Source: Office of the Under Secretary of Defense, Personnel and Readiness⁷⁰

At first glance, this would seem to reinforce the Marine Corps' pride in its self-conception as a young and lean force. While there is no doubt that young men and women entering the Marine Corps should be commended for their willingness to serve; it should also be noted that there is also irrefutable scientific data that these teens are physically and psychologically less prepared for the demands of combat than slightly older Marines (see "Assessing the 'young and lean' myth against empirical data" below). Recruiting such young Marines would not necessarily degrade service preparedness to a meaningful degree if the human capital process allowed more of them to remain in service longer until their minds and bodies matured as they became militarily experienced. Current practice, however, purges 75% of Marines as they are just beginning to enter their years of prime physical and mental performance.

The Marine Corps has also chosen to be of significantly more junior rank

As depicted in Figures 4 and 5, compared to the other three services, the Marine Corps is dramatically overrepresented in the three most junior enlisted ranks. The top six enlisted ranks (comprising noncommissioned officers and staff noncommissioned officers) which provide direct leadership, examples, and expertise, are significantly underrepresented.

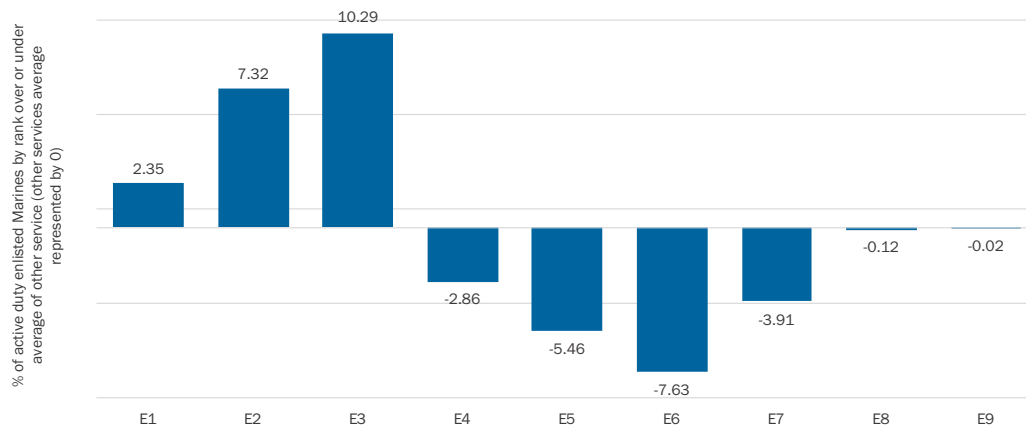
FIGURE 4: ENLISTED RANK DISTRIBUTION BY SERVICE (PERCENTAGE OF ACTIVE COMPONENT, FY2016)

Source: Office of the Under Secretary of Defense, Personnel and Readiness⁷¹

Figure 4 shows the relative enlisted rank distribution of the Marine Corps compared to the distributions of the Army, Navy, and Air Force. The Marine Corps' controlled, logical pyramid is clearly evident. Again, the Marine Corps is significantly overrepresented in the three most junior ranks with the least training and experience, members of which are most inclined toward impulsivity, risk-seeking behavior, and poorer assessment of consequences. These overrepresented ranks are those most likely to be administratively, medically, or punitively separated before completing their enlistment contract (see below).

Simultaneously, as demonstrated in Figure 5, the Marine Corps is underrepresented in all enlisted leadership ranks from noncommissioned officer through senior staff noncommissioned officer, the same ranks in which a Marine is likely to be in his or her physical and mental prime and to have accrued operational experience and full MOS proficiency. Note, these underrepresented ranks are also the most likely ranks in which the highest-quality career Marines will be diverted from the FMF to serve ELT-focused SDA tours.

FIGURE 5: VARIANCE IN MARINE CORPS ENLISTED RANK DISTRIBUTION COMPARED TO AVERAGE OF OTHER SERVICES (ACTIVE COMPONENT ENLISTED, FY2016)



Source: Office of the Under Secretary of Defense, Personnel and Readiness⁷²

Some see this disproportionate led-to-leader, inexperienced-to-experienced distribution within the Marine Corps as a source of pride. At first glance, it confirms Marine Corps self-perception as a “bang for the buck” force that is deliberately young and lean. Given that all services operate under the same pay and benefits constraints and all draw from the same pool of qualified and available American youth, more scrutiny may be warranted. Is it likely that the Marine Corps has some secret and unique alchemy that delivers dramatically better enlisted performance than the other services? Or, is it possible that the Marine Corps has been willing to tolerate greater inefficiency, greater risk, and suboptimal combat preparedness to preserve an idealized “first-term” grade structure?

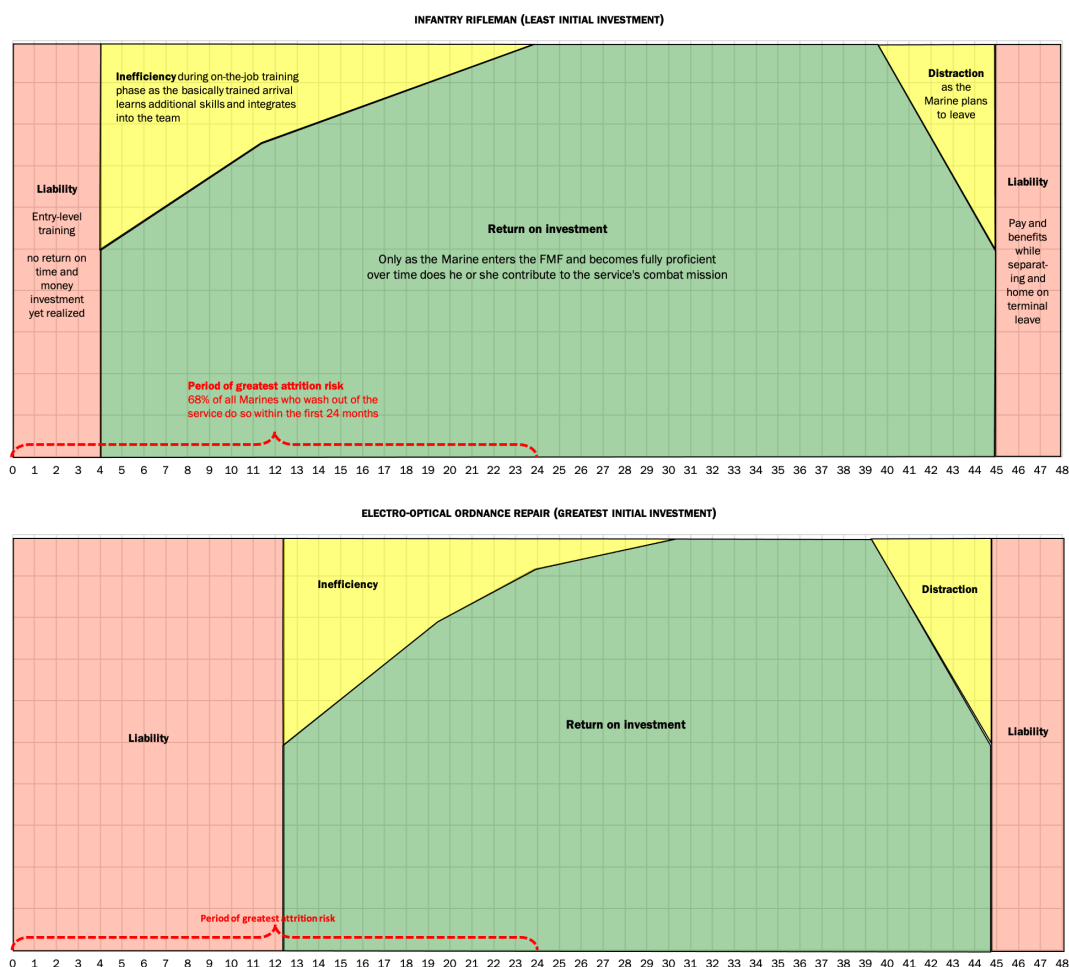
Marine Corps return on enlisted human capital investment

Return on human capital investment from the Marine Corps' perspective can be illustrated using graphs originally conceived by Gorman C. Smith in his 1964 Ph.D. dissertation which was heavily relied upon by the Gates Commission.⁷³ There is no comparable data

set to Smith's 1964 values on proficiency of Marines by TIS and MOS. For this study, these graphs should be considered conceptual and qualitative. Development of such a data set will be essential to quantitatively model and compare the true fiscal and readiness costs of enlisted human capital investment alternatives.

From the organizational perspective, money and time spent on ELT — comprised of boot camp, follow-on intermediate instruction at Marine Combat Training (MCT), follow-on MOS schools for most Marines, and the School of Infantry (SOI) for infantry — is a complete fiscal liability.⁷⁴ During this ELT period, the new Marine consumes resources and staff attention but makes no contribution to the organizational combat mission. This liability period lasts as little as six months (13% of the enlistment contract) for infantry Marines, who receive the least ELT of all enlisted MOS groups but suffer the greatest proportion of casualties in combat. For electro-optical ordnance repair Marines, who receive the longest ELT for any enlisted group with 48-month enlistment contracts, the average duration is 12.3 months (26% of the enlistment).

FIGURE 6: RELATIVE RETURN ON HUMAN CAPITAL INVESTMENT OVER A 48-MONTH ENLISTMENT



Source: Created by the author. Estimated percentage effectiveness derived from Gorman C. Smith, "Occupational Pay Differentials for Military Technicians."

New Marines are not fully proficient in their MOS upon arrival at their initial FMF units. Rather than fully contributing to the unit mission, new arrivals enter an extended OJT period during which they initially consume disproportionate supervision and attention as they integrate into the unit and become more skilled in collective tasks. The first yellow area in Figure 6 represents inefficiency and risk as the Marine is not yet fully proficient, but is nevertheless contributing something to the organizational mission. Thus, Marines under OJT yield a partial return on human capital investment. Through accumulated time, experience, and supervision, a Marine eventually becomes wholly proficient and begins delivering a full ROI on the Marine Corps investment. Note that more technical skills tend to take longer to realize a full ROI. This is a key point given General Berger’s guidance to create a “truly [distributed operations]-capable,” more technically proficient future force.⁷⁵



Through accumulated time, experience, and supervision, a Marine eventually becomes wholly proficient and begins delivering a full ROI on the Marine Corps investment.

The period of organizational risk depicted in yellow at the end of a Marine’s service represents the time after which the Marine knows he or she is not reenlisting or extending. This period begins on average 11 months from end-of-active-service (EAS). During this period, the Marine attends the congressionally-mandated Transition Readiness Seminar (TRS) and increasingly focuses his or her attention on transition, veterans’ benefits, future employment opportunities, and life beyond the Marine Corps. All the while, the FMF unit relies upon the Marine ever less as he or she becomes marginalized and distracted by the looming transition. The final three months of service, depicted in red, represent a Marine who is a complete institutional fiscal and combat readiness liability while out-processing and returning home on terminal leave, but drawing salary and benefits prior to the official EAS date.

Note that Figure 6 represents a falsely optimistic conception of human capital ROI. It only depicts completed enlistments. One must also bear in mind the fact that fully 20% of all recruited and accessed Marines fail to complete their service obligation. Thus, for every 100 Marines who successfully serve a full enlistment, the Marine Corps pays all of the accessions and separations costs and a portion of the training and benefit costs for 125 Marines. These “non-EAS attrition” Marines have all been recruited and enlisted at considerable expense only to fail to benefit the service. They have consistently numbered more than 8,000 per year over the past decade. Most recruits who leave early do so during ELT. Shockingly, per Marine Corps data, more than two thirds (68%) of all non-EAS attrition occurs in the first 24 months of service — before Marines are fully proficient and thus before the service begins to fully recoup its human capital ROI.⁷⁶

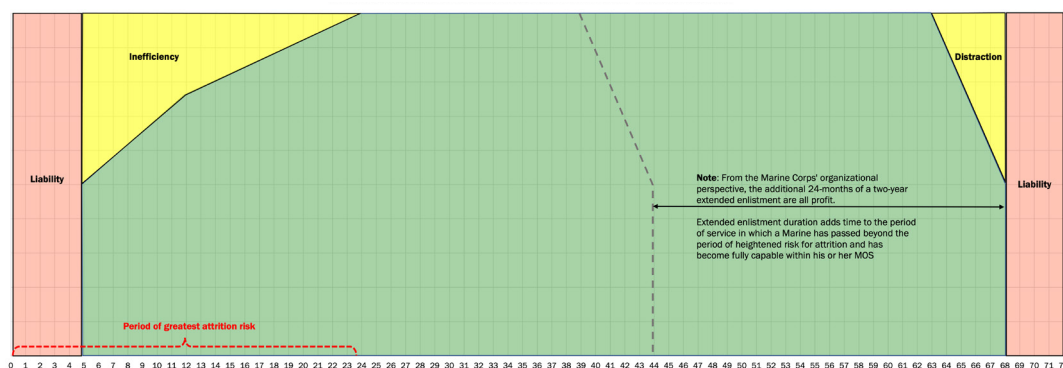
On a positive note, the service has seen significant reductions over the past decade in non-EAS attrition once Marines arrive at their FMF units and begin to be of value to the institution. Crucially, only 3% of all non-EAS attrition occurs after a Marine has completed a full enlistment and reenlisted once.⁷⁷ Marines who reenlist the first time almost never wash out during subsequent service.

Yet under current enlisted management practices, the service deliberately discards — and pays the separation costs for — Marines who are fully proficient in their MOS and have only a 3% chance of future non-EAS attrition. The service then pays the accession and production costs to replace discarded first-term Marines with untrained recruits who themselves have

a 20% likelihood of washing out. This high-turnover philosophy prioritizes an idealized but ambiguously defined “first term,” “young and lean” grade structure. In so doing, it hinders aggregate experience, MOS proficiency, unit cohesion, and combat preparedness.

Consider Figure 7 below. Note that any extension of the duration of service beyond the standard 48-month enlistment increases the period in which a Marine of any MOS is fully qualified and delivering peak performance. Such extensions or reenlistments are also beyond the period of greatest non-EAS attrition risk. This expansion of the green portion amortizes the cost and risk of the red and yellow portions of the graph over a longer duration yielding a greater Marine Corps return on accessions and ELT investment.

FIGURE 7: REPRESENTATION OF INCREASED RETURN ON INVESTMENT OF EXTENSION OR RETENTION



Source: Created by the author. Estimated percentage effectiveness derived from Gorman C. Smith, “Occupational Pay Differentials for Military Technicians.”

It should be noted that CNA’s 2007 study on the issue of longer initial service contracts determined from actual reenlistment data that Marines on six-year initial contracts were significantly more likely to reenlist than Marines on four-year contracts. Thus, the Marine Corps received a double benefit from longer accession contracts: a higher return on the recruiting and initial training investment, and a more than 50% relief in the accessions burden of finding replacements. In the words of the CNA authors, “Longer first-term contracts reduce the accession mission and mean that, for a first-term force of a fixed size, a smaller portion of the force is in training and a larger portion of the force is in the operational forces.”⁷⁸ In recent years, the service has begun experimenting with pilot programs for longer-term enlistment contracts for selected skilled MOSs.

Variable fiscal cost implications of high enlisted turnover

The Marine Corps exists for one purpose, victory in combat. Any human capital strategy aligned with that mission should maximize the combat readiness and capacity within the FMF for a given personnel budget. The author did not have access to detailed financial and personnel costing data necessary to model alternatives. As such, the sections below dealing with fixed and variable fiscal costs are discussed in abstract qualitative terms.⁷⁹

As discussed above, every incoming Marine requires a significant investment in money and time before he or she begins to contribute to the mission of the Marine Corps. Conversely, every separating Marine becomes a financial liability while he or she is still on active duty and out-processing and during terminal leave.

Consider the basic variable accession and separation fiscal cost equations in Tables 2 and 3 below. For each new accession the cost required to advertise, recruit, screen, and process the recruit; transportation costs to boot camp, MCT, MOS school, and onward to his or her first unit; the cost of the initial clothing issue and consumable training materials; the new Marine's salary and benefits during the period of entry-level and follow-on training; and the cost of the salary and benefits of that portion of the faculty and staff devoted to training and supporting the new Marine. Conversely, every separating Marine receives salary and benefits during transition readiness seminar and while on terminal leave, as well as the cost of a permanent change of station (PCS) move to his or her home of record. Marines in both the initial training pipeline and on terminal leave are complete fiscal liabilities; they either do not yet or no longer contribute to the warfighting mission.⁸⁰

TABLE 2: VARIABLE COSTS INCURRED WITH EACH ACCESSION

Variable service ELT fiscal costs of each enlistment	Variable service fiscal costs of each separation
Cost (recruitment & processing) Transport cost (home → boot camp) Cost (initial clothing issue) Proportional wages (drill instructors/ support staff) Transport cost (boot camp → SOI/ MCT) Marine's wages (MCT/SOI) Proportional wages (instructors/ support staff) Cost (training supplies/consumables) Transport cost (MCT → MOS school)* Marine's wages (MOS school)* Proportional wages (instructors/ support staff)* Cost (training supplies/consumables)* Transport cost (MOS school → first unit)* +	Marine's wages (transition seminar & checkout) Transport cost (duty station → home of record) + Marine's wages (terminal leave)
Fiscal costs of ELT investment spent for each Marine before any benefit to the service	Fiscal costs of separation for each enlistment; including Marines administratively separated without fulfilling a complete enlistment
<i>*Note: Asterisk items do not apply to the 13% of the enlisted force who are infantry and for whom SOI is their MOS producing school.</i>	

Source: Created by author.

Fully accounting for training costs at various levels of turnover is surprisingly difficult. In 2004, a team of CNA researchers seeking to assess the potential economic costs and benefits of reenlistment bonuses to the service lamented, “Unfortunately, the Marine Corps does not compile training costs by [primary MOS], and the cost of trying to obtain them is well beyond this study’s budget.” They continued on in their explanatory footnote,

“For a variety of reasons, we would argue that the Marine Corps should have training cost data. Such data are invaluable inputs to the solutions of a variety of policy questions. However, such data are not available and the costs of trying to construct them for one particular study are prohibitive. That said, it is extremely difficult to estimate training costs, as many different budgetary accounts are involved and many costs are hidden inside larger accounts.”⁸¹

Absent such accurate data on ELT costs, senior leaders cannot make informed decisions on the merits of alternative turnover-retention models. If accurate costs for training cannot be provided, then the expected savings of reduced ELT volume cannot be calculated and compared to the costs of elevated pay and benefits of a slightly more mature force design. The service is then hoist on the petard of its own inadequate data. The fiscal and manpower savings of a reduction in annual accessions and ELT cannot be used to justify alternatives to the *status quo*.

It should be noted that, as part of the service’s vision for a more distributed and technologically dense future force, the Marine Corps has expects to greatly expand the number of enlisted Marines who are required to have access to secret and top secret information in the normal performance of their duties. Service leaders must ensure cost-benefit assumptions which inform annual enlisted turnover goals fully account for the costs of security clearances for a much greater portion of junior enlisted personnel.

There is an additional category of separation costs which the Marine Corps does not pay but the American taxpayer still does. Many separating Marines are eligible for some level of Veterans’ Affairs disability benefits. Additionally, every honorably separated Marine receives a Post-9/11 GI Bill benefit with an average government cost around \$90,000 and a maximum possible payout of \$274,275.24 at 2021 rates.⁸² While the Marine Corps does not incur these costs, they are still passed on to the American taxpayer for each honorable discharge.

TABLE 3: VARIABLE COSTS GENERATED BY EACH SEPARATED FIRST-TERM MARINE AND PASSED TO TAXPAYERS

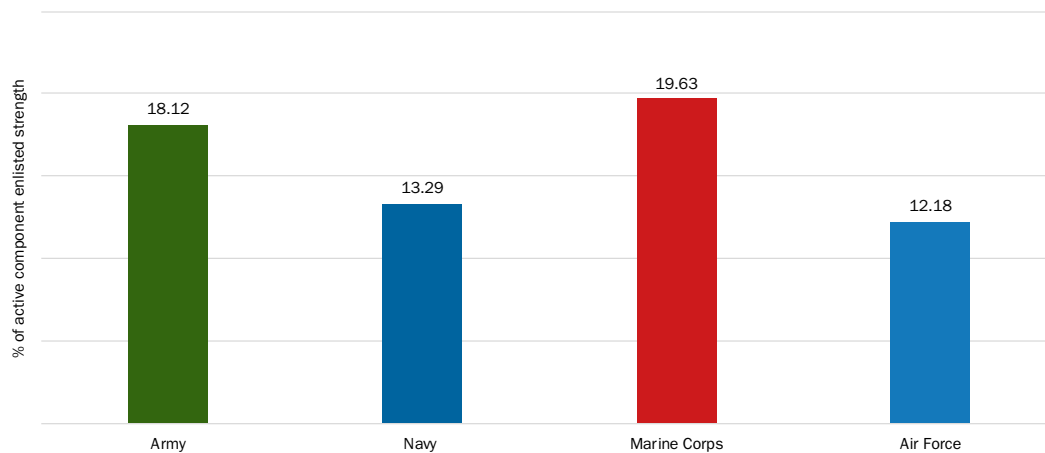
Variable Veterans Administration fiscal costs	
+	Disability compensation awarded to the Marine
	Cost of post-9/11 G.I. Bill
Fiscal costs of separation incurred by the American taxpayer but not USMC	
Note: 1. Not every separating Marine is awarded VA disability compensation. 2. Only Marines who receive an honorable discharge after 36 of service are eligible for the post-9/11 G.I. Bill.	

Source: Created by author.

Naturally, there are also variable non-fiscal human capital costs driven by accessions volume. The fiscal component of boot camp, MCT/SOI, and MOS producing school faculty and staff are already incorporated in Table 2 above. But there are also human capital apportionment opportunity costs. A Marine can only be one place at a time. Every experienced sergeant, staff sergeant, or captain assigned to instructor or staff duties at boot camp, the schools of infantry, and MOS schools is absent from the FMF.

The commitment to its recruit-and-replace model causes the Marine Corps to have the highest annual active duty enlisted turnover of any service (see Figure 8, below). To maintain such a disproportionately high percentage of its force in ranks E-1 through E-3 shown in Figure 5 above, the Marine Corps, by policy, discharges most first-term Marines and accesses replacements. To replace separating enlisted members, the Marine Corps accessed 32,029 new Marines in 2017. The total number of required annual accessions in turn drives recruiting and ELT faculty and staff requirements.

FIGURE 8: COMPARATIVE ANNUAL ACTIVE DUTY ENLISTED FORCE TURNOVER BY SERVICE (FY2017)



Source: Office of the Under Secretary of Defense, Personnel and Readiness⁸³

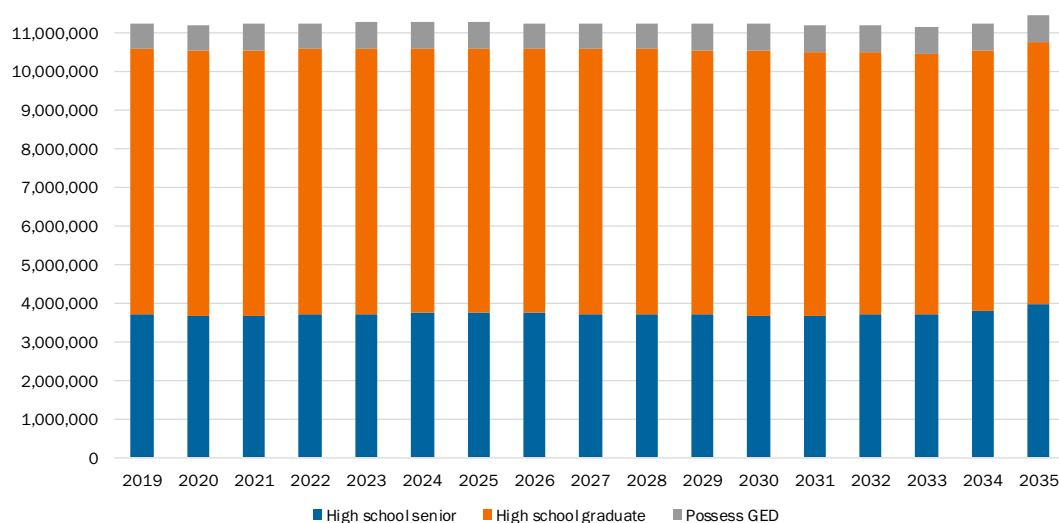
Were the Marine Corps to hypothetically reduce its turnover rate to the level of the Navy, in 2017 this would have reduced the requirement for new accessions by 10,344, or 32%. This would yield a corresponding 32% reduction to the variable components of recruiting and ELT fiscal costs as well as a 32% reduction in the variable component of faculty and support staff requirements at boot camps, SOI, MCT, and MOS schools.

If such a reduction was indeed attainable, where might the Marine Corps reinvest 32% of the money and career Marines it perpetually devotes to accessions and ELT? How many of the annual roughly 86,000 Marine Corps enlisted PCS or permanent change of assignment (PCA) moves might be eliminated, thus providing a corresponding decrease in disruptions to both FMF units and Marine families?

High turnover implications for recruiting: Accessions are not getting easier

Recruiting will not get easier in the coming decades. Even if Marine Corps leaders choose to ignore foreseeable increased human capital demands of the future battlefield, simply maintaining the *status quo* turnover model will be a challenge. The firm Woods & Poole regularly conducts forecasting of youth population trends for the Department of Defense. Figure 9 below shows their most recent projections of available youth for recruitment each year through 2035. The graph shows the total projected population of American youth ages 17-24 by educational attainment including the youth population who are high school seniors, high school graduates, or who possess a GED. These portions of the youth population account for the overwhelming preponderance of historical Marine Corps recruits. Over the next 15 years, this population is only expected to grow 2% from 11.19 to 11.43 million.

FIGURE 9: WOODS & POOLE FORECAST OF INVENTORY OF U.S. YOUTH (17-24) BY EDUCATIONAL ATTAINMENT 2020-2035



Source: Woods & Poole data emailed to the author by William Bushman, performing the duties of deputy undersecretary of defense for Personnel & Readiness, upon author's request.

Of course, very few of these young Americans meet minimum enlistment standards. A separate 2013 Woods & Poole study conducted for the Defense Advisory Committee on Women in the Services (DACOWITS) found that only 29% of American youth were qualified to enlist; that number was projected to remain steady at 29% through 2026.⁸⁴ Among the limited pool eligible to enlist, a declining few are predisposed toward Marine Corps service. According to the spring 2017 study on youth propensity to enlist conducted by the Pentagon's Joint Advertising, Market Research, and Studies division, propensity to enlist in the Marine Corps declined from an average of 8% of respondents in 2014 to an average of only 6% in 2016.⁸⁵

To provide a basically trained force and to meet end strength and personnel readiness reporting requirements, the Marine Corps has been forced to divert significant funding and a high proportion of its most able career Marines to keep pace with accessions

and ELT demands. Like Lucy and Ethel in the chocolate factory, senior leaders find themselves slaves to the conveyor belt of high junior enlisted turnover, at the mercy of its pace, and unable to turn away from the immediacy of its demands.

It may be worth re-examining underlying assumptions of the high-turnover policy given the tremendous effort and cost required to recruit and enlist qualified and willing new Marines. Is the deliberately low enlisted retention a necessity, a luxury, or a self-generated dilemma that consumes disproportionately high resources? A serious, comprehensive, and empirically rigorous study of alternatives to the low-retention model is warranted considering the dismal projected 2030 market for qualified American youth combined with the 38th commandant's desires for a more technically capable and mature distributed force.

Assessing the “young and lean” myth against empirical data

Youth and the physiology of physical maturation

A slightly more mature force would be more physically prepared for combat. The Marine Corps' own data demonstrate that teenaged Marines are less physically capable on average than slightly older Marines. All Marines are required to take the Physical Fitness Test (PFT) between January and June of each year. This test evaluates upper body strength, abdominal endurance, and cardiovascular endurance. It consists of maximum dead-hang pullups, maximum abdominal crunches within two minutes, and a timed three-mile run. The PFT is taken in running shorts, running shoes, and a t-shirt. Each event is worth a maximum of 100 points for a total of 300 points possible for a perfect PFT.

Between July and December, all Marines take the Combat Fitness Test (CFT). The CFT is designed to more accurately represent physical demands of ground combat. Marines wear the combat uniform, complete with boots, for the CFT. It consists of a timed 880-yard sprint; maximum shoulder presses of a 30-pound ammunition can; and a timed shuttle run which combines sprint, low crawl, high crawl, zig-zag, dragging a simulated wounded Marine, running while carrying a simulated wounded Marine, throwing a practice grenade for accuracy, push-ups, and sprinting with two 30-pound ammunition cans.

In 2018, the Marine Corps' Force Fitness Division conducted large-n tests to develop age-normalized scores for both the PFT and CFT. The new normalized standards took effect in January 2019. Upon announcement of the new standards, Force Fitness Division Director Colonel Stephen Armes stated, “You grow, from a muscular perspective, into your 20s... A 25-year-old will be stronger than when you're 17. They have more time to develop, especially in a structured program like the Marine Corps.”⁸⁶

Per the age normalized Marine PFT and CFT standards, Marines aged 17-20 are understood to be uniformly less capable in upper body strength, abdominal strength, and agility. The most grueling physical standards are reserved for those Marines aged 21-30. Table 4 below shows the comparative fitness test requirements for a maximum score across the three youngest age brackets. In each column, the least demanding score is red while the most demanding is green.

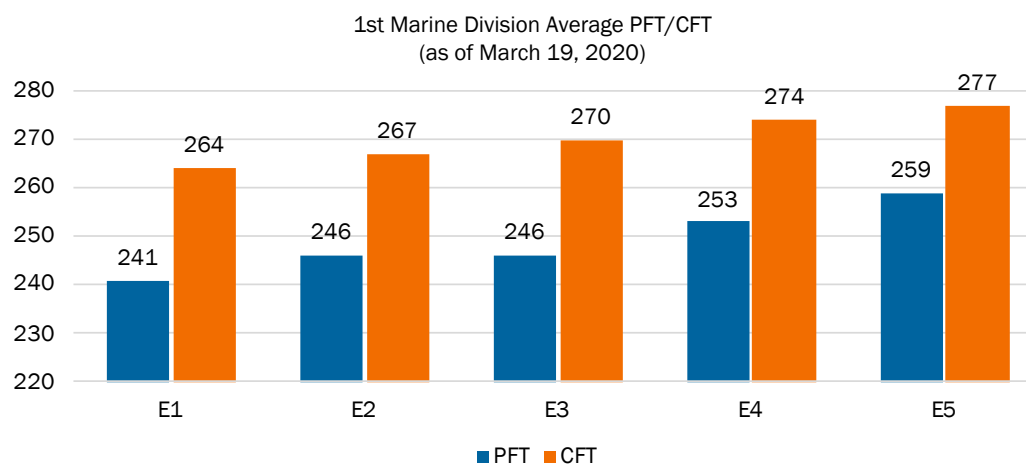
TABLE 4: MAXIMUM MARINE CORPS MALE FITNESS TEST SCORES BY AGE GROUP

Age group	Pull ups	Push ups	Crunches	3-mile run	880-yard run	Ammo can lifts	Shuttle run
17-20	20	82	105	18:00	2:40	106	2:07
21-25	23	87	110	18:00	2:38	115	2:04
26-30	23	84	115	18:00	2:39	116	2:05

Source: Headquarters U.S. Marine Corps⁸⁷

Because recruits must be 17 to join the Marine Corps and the minimum initial enlistment contract is for four years, the 17-20 age group for which the Marine Corps has the lowest physical expectations consists entirely of Marines on their first enlistment. Recall from Figure 2 above that fully 73% of all new Marines enlist as teenagers. In keeping with the Marine Corps EGSR and ECFC policies, only one of four will be retained beyond his or her initial enlistment. Thus, under existing practice, three of every four Marines who enlist will be intentionally separated from the Marine Corps just as they are entering the age range of optimum combat-relevant physical fitness.

Differential fitness capability by age is not just theoretical. It is demonstrated by actual Marine Corps fitness test results. Figure 10 below shows the comparative average performance across ranks E-1 through E-5 for 2019 for the Marine Corps' largest division. Recall that, due to time requirements for promotion, almost all Marines in the less demanding 17-20 fitness test scoring bracket will be in ranks E-1 through E-3. Almost all E-4s and all E-5s are in the more demanding 21-25 or 26-30 scoring brackets. Even given their higher scoring standards, the slightly older population of E-4s and E-5s scored significantly higher on both the PFT and CFT than their younger counterparts. If all ranks were scored by a common standard, this disparity would be even more pronounced with the slightly older Marines outperforming the youngest group by an even wider margin.⁸⁸

FIGURE 10: E1-E5 COMPARATIVE PFT/CFT DATA

Note: Most E-4s and almost all E-5s are in the more demanding bracket.

Source: United States Marine Corps⁸⁹

This chart depicts the largest Marine Corps division whose Marines are most likely to face the rigors of ground combat. It is notable that this trend is consistent across the entire Marine Corps. Across the entire Marine Corps, the average E-5 PFT is 14 points higher than the average E-1 PFT; for the CFT, the average E-5 score is 13 points higher than the average E-1. The data is unambiguous; slightly older Marines did more pullups, crunches, push-ups, and ammunition can lifts, and ran faster than Marines in the 17-20 age bracket.

Youth and the physiology of brain maturation

A slightly more mature force makes better aggregate decisions. Discoveries since 1985 have advanced neuroscience to the point that this is simply no longer a debatable fact. The youngest adults make less prudent risk decisions than slightly more mature adults. Teenagers, even if they have earned the title of “Marine,” make poorer decisions than people in their early to mid-twenties. This is a matter of neurobiology, not individual effort or leadership. No number of all-hands briefs, safety stand-downs, admonishments to “lead harder,” or reliefs of commanders will fully mitigate the limitations of the physiological pace of human brain development.



Teenagers, even if they have earned the title of “Marine,” make poorer decisions than people in their early to mid-twenties. This is a matter of neurobiology, not individual effort or leadership.

Our brains change dramatically as we mature. They are quite different when we are 17 than they are when we are 25. Initially, our brains overproduce gray matter and peak in volume around age 16. Later, during the late teens, they shrink by shedding unused or inefficient gray matter. Simultaneously, different brain regions progressively become more specialized. This process, known as myelination “progresses from the back to the front of the brain with the frontal lobes among the last to show these structural changes.” Finally, neural connections that remain “become more adept at transmitting information” which “facilitates increased integration of brain activity.”⁹⁰

At a 2004 symposium devoted to the study of adolescent brain development, Ronald Dahl, a professor of psychology at the University of Pittsburg, noted that adolescents are twice as likely to die as either youth below or adults above them in age due to a combination of risk taking, thrill seeking, and recklessness. Reasons for increased adolescent mortality include, “high rates of accidents, suicide, homicide, depression, alcohol and substance abuse, violence, reckless behaviors, eating disorders, and health problems associated with risky sexual behaviors.”⁹¹ Dahl continued to describe the adolescent brain as an “emotional tinderbox” of ignited passions.⁹² Temple University psychologist Laurence Steinberg’s research on risk taking concluded that adolescents were equally adept as adults at identifying high risk behaviors but differed in their prudence. His research team concluded that “heightened risk taking during [adolescence] is likely to be normative, *biologically driven, and inevitable... and studies show persuasively that educational efforts do not lead to less risk taking*” [emphasis added].⁹³

National Institute of Mental Health psychologist Jay Giedd studied brain maturation by age in 2004 using magnetic resonance imaging (MRI) to study adolescent brain development. His team found that, while brain volume peaks on average for both

genders in year 16, the “dorsal lateral cortex, important for controlling impulses, is among the latest brain regions to mature” not reaching “adult dimensions until the early 20s.”⁹⁴ Giedd’s conclusions were confirmed by later functional MRI (fMRI) studies conducted by Beatriz Luna of the University of Pittsburgh and John Sweeney of the University of Illinois. While comparing adolescents (12-19 years) and adult (22-40 years) responses, Luna and Sweeney observed that younger brains tended to process inputs from differing regions of the brain sequentially. Subjects in their twenties and up integrated inputs from various brain centers simultaneously. After comparatively evaluating brain performance of various ages, the authors concluded that brains in the 12-19 age sample “despite their improving performance [over younger brains]... could fail under ‘hot’ high demanding situations, where the circuitry is not sufficiently established to sustain adult-level cognitive control of behavior in the face of heightened states of affect or motivation, or distracting stimuli and competing tasks.”⁹⁵

Indeed, one of the greatest impacts of fMRI imaging studies adolescent brain development has been to challenge the concept of adulthood. Researchers have concluded that based upon emerging neuroscience, “there is little empirical evidence to support age 18... as an accurate marker of adult capacities.”⁹⁶ In 2005, based upon fMRI brain research, the U.S. Supreme Court ruled that capital punishment could not be carried out on 17-year-olds because of reduced culpability due to insufficient cognitive capacity of late teens.⁹⁷

In 2009, three Johns Hopkins University brain researchers published a groundbreaking study based upon fMRI imaging of adolescent and adult brains and described the three-step process of neurological maturation from early puberty through the mid-twenties. The most astounding finding of this study was that myelination of the prefrontal cortex “does not occur until the early 20s or later.” This is key because “the prefrontal cortex coordinates higher-order cognitive processes and executive functioning” which “are a set of supervisory cognitive skills needed for goal-directed behavior, including planning, response inhibition, working memory, and attention.” The authors stressed that poor executive functioning prior to maturation “could undermine judgment and decision making.”⁹⁸ This correlation of the prefrontal cortex with goal-direction, control of inhibitions, effective planning, and remaining attentive was confirmed in a 2018 Office of the Director of National Intelligence, Intelligence Advanced Research Projects Activity (IARPA) study conducted by a team from the Decision Neuroscience Laboratory at the University of Illinois, Urbana-Champaign.⁹⁹

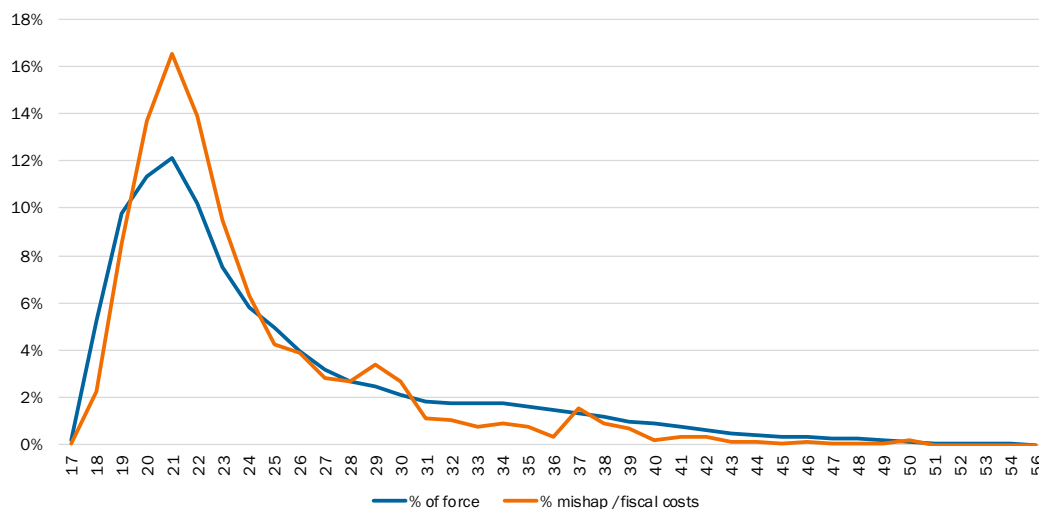
Realizing that physiological brain maturation cannot be accelerated through sheer will or training, the Marine Corps might be well served to mature its enlisted force by simply retaining a greater proportion of the high-quality, proven first-term Marines whose brains are, on average, just becoming fully mature. In doing so, the Marine Corps would simultaneously benefit from experience accumulated during the first term as well as the improved problem solving, risk assessment, and impulse control inherent in slightly more mature brains.

Youth and force preservation

A slightly more mature force experiences fewer costly mishaps per capita. There is strong anecdotal justification to believe that a relatively more mature force will experience fewer force preservation distractions and inefficiencies and thus be able to devote increased leader attention on the mission of the Marine Corps as less time and focus is spent on administrative burdens caused by safety mishaps, investigations, and misconduct.

Using vehicle accidents by age as a proxy, one can model the consequences of comparative teen and adult risk decisions. In 2017, the International Institute for Highway Safety provided statistics indicating that 19-year-old drivers averaged 16.7 vehicle accidents per million miles driven. By contrast, drivers in the age range of 20-24 averaged 8.9 and drivers 25-29 only 6.3. After analyzing myriad data, the International Institute for Highway Safety bluntly summed up, “Teen drivers have crash rates nearly 4 times those of drivers 20 and older per mile driven. Immaturity leads to speeding and other risky habits, and inexperience means teen drivers often don’t recognize or know how to respond to hazards.”¹⁰⁰ Of course, teens are teens even when they are not driving cars. Recall from Figure 2 that fully 73% of all new Marine accessions are between ages 17 and 19.

FIGURE 11: MARINE CORPS ENLISTED FORCE PROPORTIONAL MISHAP COSTS BY AGE (PERCENTAGE OF ACTIVE ENLISTED TOTAL)



Source: Commandant of the Marine Corps Safety Division¹⁰¹

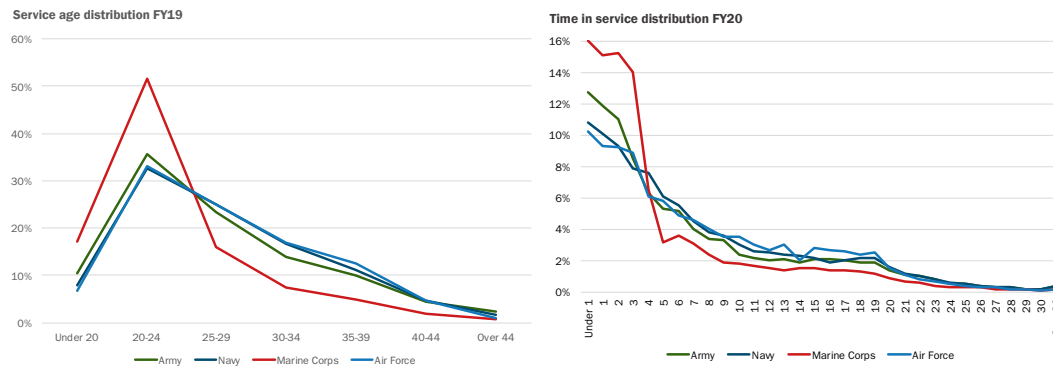
Completely in keeping with the modern scientific understanding of neurological maturation, Marine Corps Safety Division data shows the youngest Marines create a disproportionate share of the costs to the Marine Corps of both off-duty and on-duty safety mishaps. Per Figure 11, Marines aged 19-23 years are overrepresented in the fiscal costs of mishaps incurred by the Marine Corps annually. A greater proportion of slightly more mature Marines should be expected to reduce the overall safety mishap rate. Younger Marines are also responsible for the preponderance of behavioral problems correlated with high risk tolerance and high impulsivity: binge drinking, drunk driving, sexual misconduct, and petty crimes. It is completely consistent with recent neuroscience advances to expect that retaining more 22-year-olds — rather replacing them with new 18-year-olds — would result in significant reductions in both safety mishap costs and the administrative distractions, and disruptions of misconduct cases.

Perspective

Having examined implications of maintaining a perpetually young force through deliberately high first-term turnover, let us again put the uniqueness of the Marine Corps enlisted human capital in perspective. Figure 12 below shows comparative service distributions by age group and time in service. Note the uniformity among the other

three services who operate under the same external constraints and competitive labor market as the Marine Corps. The current Marine Corps enlisted system is designed for high first-term attrition of fully trained Marines which perpetuates reliance on constant supply of new teenage recruits.

FIGURE 12: COMPARATIVE AGE GROUP AND TIME IN SERVICE DISTRIBUTIONS ACROSS SERVICES



Source: Commandant of the Marine Corps Safety Division¹⁰²

4. TILTING AT WINDMILLS: PREVIOUS ATTEMPTS TO CHANGE

The Marine Corps has been fully aware for decades of its need to reform enlisted manpower management. For more than 20 years, a parade of generals and experienced field grade officers has consistently — though yet unsuccessfully — called for increased investment in, and retention of, enlisted human capital.

On October 10, 1997, the 31st commandant of the Marine Corps, General Charles C. Krulak, delivered remarks on the future of conflict to the National Press Club in Washington, DC. This was the first iteration of General Krulak's *Ne Cras* ("not like yesterday") speech. Based upon the Roman general Varus' defeat at Teutoburg Forest in 9 AD, the speech's premise was that enemies learn from experience and adapt to negate superpower advantages. Predicting future asymmetric fights, Krulak foresaw increasing complexity:

"We can make the mistakes of Quintilius Varus and ignore the implications of change, or we can learn from history, and prepare now for the inevitable battles that are to come... How do we prepare our Marines for the 21st-century battlefield?...How do we instill in them the knowledge, skill, decision-making ability, and character... And perhaps most significantly, how do we prepare the Corps as an institution for the challenges of the 21st century?"¹⁰³

Krulak succeeded in creating some lasting organizational innovations such as the Marine Corps Warfighting Laboratory and the streamlined procurement and integration of commercial technologies. Terry Terriff, a Canadian political scientist and editor of the *Journal of Military and Strategic Studies*, scrutinized Krulak's reforms. He found that Krulak understood the requirement for increased enlisted human capital investment, noting:

"One aspect of this experimental operational concept was the cognition that it required non-commissioned officers (NCOs) leading the squads to have the tactical, operational, and indeed strategic awareness, and associated skill sets, at least equivalent to that expected of an officer one or several rungs up the command chain. This insight into the need to better prepare NCOs was one of the initial inspirations for what Krulak came to call the 'strategic corporal.'"¹⁰⁴

Yet Krulak was unable to reconcile the tension between the need to increase training and retention and the entrenched recruit-and-replace paradigm. Terriff noted that "Krulak's desire that the Corps work to create the 'strategic corporal' foundered as adequate funding was never put into developing enhanced training for NCOs."¹⁰⁵ Worse still, Terriff discovered that general officers and senior manpower bureaucrats actively resisted the commandant's reforms through deliberate "institutional friction." Many unconvinced officers and civil servants believed "Krulak's policies were of only particular concern to him... and would pass once his four years as commandant were completed."¹⁰⁶ Krulak failed to place officers who were fully committed to his reforms into key positions, and conversely, to remove resisters. His opponents simply waited him out.

Following General Krulak, the Marine Corps began a decades-long struggle to reconcile the increasingly obvious requirement for increased enlisted proficiency and experience with an incompatible high-turnover, low-retention enlisted force. Over the years, a phalanx of prescient officers spoke out to little avail.¹⁰⁷

In May 2002, Lieutenant Colonel Paul Kennedy completed his war college Future War paper, “Equipping Our Strategic Corporal for 21st Century Warfare.” Kennedy argued that the Marine Corps was under-investing in infantry NCO human capital and as a result, “the notional ‘Strategic Corporal,’ as described by General Krulak, is poorly recruited, insufficiently trained and educated, and marginally prepared to succeed.” Kennedy asserted that, to fulfill Krulak’s vision, increased NCO retention and professionalization were required.¹⁰⁸ While Kennedy’s study was focused on enlisted infantry, his findings apply across the range of MOSs within the FMF. This is especially true in light of the current commandant’s “Force Design 2030” vision.

In April 2005, the 33rd commandant of the Marine Corps, General Michael W. Hagee, clearly signaled that he also expected increased future demands on squad leaders in his white paper, “A Concept for Distributed Operations.” The following month, Lieutenant Colonel Christian F. Wortman published his Future War paper, “Operationalizing Distributed Operations: Enlisted Manpower Requirements and Solutions.” Wortman argued that the Marine Corps would have to increase training and education investment in Marines if small units were to possess the knowledge, skills, and maturity necessary to operate independently during distributed operations.¹⁰⁹

Later in 2005, Lieutenant General James Mattis, as deputy commandant for combat development and integration, requested a Naval Research Advisory Committee (NRAC) study to determine which technologies would have to be increased to enable distributed operations. Mattis intended to use the results of that study to inform additional small unit training requirements. The NRAC published the results of the study in July 2006 under the title “Distributed Operations.” Among other things, the NRAC asserted: “In general, the requirements for Distributed Operations elevate the infantry Military Occupational Specialty (MOS) to be comparable with other highly skilled MOSs... the Marine Corps should evaluate the feasibility, desirability, and means of aging the force in order to maximize return on investment in much more highly trained infantrymen.”¹¹⁰ While certainly still applicable to infantry MOSs, in light of ongoing modernization efforts, this observation applies to a broader portion of the FMF.

In March 2007, CNA published a report entitled “Distributed Operations: Manpower Policies for Developing Small Unit Leaders.” Mirroring many of the findings of the NRAC report, CNA emphasized, “The small unit leader — in this case the sergeant Rifle Squad Leader — will require skills and experiences that the average squad leader today does not possess.”¹¹¹ These included increased abilities to manage fires, operate and troubleshoot increasingly complex command and control systems, and manage and coordinate logistics. CNA determined that addressing these shortfalls in recruiting, training, staffing, and retaining leaders required for successful future operations would require a dramatic departure from current manpower management of unit leaders. The authors advocated keeping enlisted noncommissioned officers in FMF units for seven years to reap an adequate ROI and ensure appropriate maturity in combat units. Such systematic retention of high-quality leaders within the FMF for continued investment is unattainable given the demands for SDA assignments within the current high turnover system.

In July 2007, future commandant Robert Neller, then a major general commanding an infantry division, published a memorandum entitled “A Commitment to Squad Leaders.” In it, he declared, “We will never achieve the result / capacity we desire from

infantry squad leaders unless we invest in their development. It is not possible, except in extraordinary cases, to train the skills and develop the maturity in the type of Marine we are looking for on the first enlistment.”¹¹²

That same month, retired Army Major General Robert Scales published an influential *Armed Forces Journal* article relevant to this topic. Entitled “Infantry and National Priorities,” it illuminated the increasing ratio of infantry casualties as a proportion of U.S. losses in 21st-century combat. Among other suggestions, Scales argued that improved manpower policies and increased training investment would be required for the Army and Marine Corps to develop small units that were more successful in combat while also reducing casualty rates.¹¹³

Two key 2009 papers focused attention on the problems of force maturity and retention in a more complex world. Major Blair Sokol published his School of Advanced Military Studies master’s thesis entitled, “Reframing Marine Corps Distributed Operations and Enhanced Company Operations.” After studying the pathologies of deliberately high enlisted turnover, Sokol concluded, small unit leaders frequently “have limited experience and maturity needed for the independent responsibility requisite in the distributed operations concept as well as limited time in service to learn the myriad skill-sets required to execute distributed operations.”¹¹⁴

While Sokol was publishing his thesis in Leavenworth, Major Thomas M. Tennant submitted his Command and Staff College thesis, which provided a detailed inquiry into the Marine Corps’ systemic inability to provide squad leaders with appropriate rank, time in service, and training to the FMF. Tennant concluded that Marine Corps policies on reenlistment, promotions, and staffing priorities were responsible for the service’s endemic small unit leader deficits across the FMF. He noted that any improvements would require significant changes to retention policies.¹¹⁵

In May 2010, Major Tom Wood published his Marine Corps Command and Staff College master’s thesis entitled “Bracing the Infantry’s Backbone for 21st-Century Operations.” Wood advanced Kennedy’s research and findings from 2002. He examines the demographics of Marine Corps noncommissioned officers and cautions that the “Corps’ bias towards youth inhibits the selection of those... best qualified to become NCOs.”¹¹⁶ He goes on to argue that the service is depriving itself of potential recruits in their early twenties who are more matured. Wood’s thesis was one of the first in this field to leverage early fMRI studies. He recommended recruiting older Marines, reducing turnover by retaining more proven Marines to become noncommissioned officers, and increasing training and education investments in the enlisted force to be more relevant to 21st-century challenges.¹¹⁷

That same month, the RAND Corporation published a massive For Official Use Only (FOUO) study for the Marine Corps’ deputy commandant for plans, policies, and operations, which analyzed ongoing service challenges with developing adequately trained and experienced small unit leaders. As public distribution of this report is prohibited by the DOD, it is not quoted here. Nonetheless, it should be noted that RAND concluded the Marine Corps’ struggles were a direct result of a high-turnover model devoted to recruitment at the expense of retention, which will never be capable of providing leaders of the desired maturity and experience.¹¹⁸

As the 35th commandant of the Marine Corps, General James F. Amos threw his full authority into increasing human capital investment in small unit leaders. In 2010, he declared: “We will better educate and train our Marines to succeed in distributed operations and increasingly complex environments. We will invest more in the education of our NCOs and junior officers, as they have assumed vastly greater responsibilities in both combat and garrison.” He later added: “There is no substitute for having the right people, particularly key leaders, in deploying units at the right time. We will change our manpower management, education, and training processes to achieve this goal. All these initiatives require talented and experienced Marines... as such, we will adjust our force structure accordingly to meet our needs.”¹¹⁹ Despite the commandant’s intentions and admonishments, Marine Corps enlisted human capital processes were not changed. Force structure was not adjusted to increase the talent or experience of enlisted Marines. Additional enlisted training requirements were laid upon Marines and their commands. Since these were not accompanied by either increased inventory or reduced deployment demands, they became a form of unfunded mandate, which exacerbated absences of FMF NCOs from their Marines.

In 2011, the Marine Corps Combat Development Command’s Operations Analysis Division published a study titled, “Developing Small Unit Leaders: The Strategic Corporal and the Infantry Leader.” This study sought to identify improvements to training which might increase small unit leader proficiency. It confirmed the obvious fact that additional investment in formal training — which requires additional time — increases proficiency.¹²⁰ Efforts to increase formal training requirements without extending enlistment lengths or reducing operational tempo tended to simply increase operational tempo and disruptions to unit cohesion by adding requirements to already strained unit and individual calendars.

As he assumed duties as commandant from Amos in 2015, General Joseph Dunford immediately laid down the gauntlet regarding enlisted human capital management. His planning guidance declared:

“...our current inventory of noncommissioned Officers (NCOs) and staff noncommissioned Officers (SNCOs) is not meeting our force structure requirements and this shortfall must be addressed... we will fully implement programs... and consider other innovative ways to *enhance the quantity and maturity of leadership at the small unit level... I fully appreciate that addressing our NCO gaps and how we achieve cohesion will require making tough choices*. In some cases, we need to change how we have been operating. *We will make the hard calls and embrace change to our long-standing manpower and force structure policies and processes.*” [emphasis added]¹²¹

In addition to increasing maturity and cohesion, General Dunford directed a modification of readiness reporting to better reflect unit cohesion to minimize personnel turbulence. He appeared to be fully committed to forcing institutional change to Marine Corps human capital management. Alas, it was not to be. After only 199 days as commandant, General Dunford was nominated to be the chairman of the Joint Chiefs of Staff. In the end, he served 342 days as commandant.¹²²

Dunford’s successor, General Robert Neller was initially equally adamant about reforming enlisted management. After becoming commandant in the summer of 2016, Neller wrote:

“the future... will force us to be more agile, flexible and adaptable. Most importantly, it will require Marines who are smart, fit, disciplined, resilient, and able to adapt to uncertainty... Recruiting and retaining quality men and women of character in today’s Corps is our friendly center of gravity and our highest priority... we must ensure we recognize, promote and retain those who are the most competent, mature and capable...”¹²³

In the end, there were no substantive increases in first-term retention or force maturity during Neller’s tenure.

The Marine Corps convenes a semi-annual conference, dubbed the Ground Board, overseen by a three-star deputy commandant and comprised of all division commanders, the commander of Marine Corps Special Operations Command, combat arms regimental commanders, and selected battalion commanders. No less than 17 times between 2007 and 2017, the Ground Board called for increased training and retention of experienced Marines within the FMF.¹²⁴ The ineffectiveness of the current recruit-and-replace, high-turnover system to meet the needs of FMF commanders has become a perennial issue when commanders are afforded a chance to provide feedback.

From 2016 through 2017, the Marine Corps Warfighting Laboratory conducted an experiment dubbed “Sea Dragon 2025” on best preparing units to succeed on future battlefields. The exercise force infantry battalion was fully staffed with enlisted Marines with the appropriate ranks, formal schools, and time in service. This is a feat the current enlisted human capital system is incapable of providing to FMF units and required significant exceptions and artificial overstaffing. With admirable understatement, the final report noted that participants and observers unanimously agreed that providing units with fully-trained and appropriately mature Marines dramatically improved combat performance over units staffed in the normal manner.¹²⁵

Clearly, successive generations of Marine leaders have realized that their existing enlisted human capital system is irredeemably incapable of providing FMF units the Marines with the skills and maturity, which leaders believe are required. Throughout this entire period from Krulak to the present — and despite numerous studies and myriad FMF commanders’ pleas for increased human capital investment and retention — the Marine Corps has persisted in its deliberately high turnover and low retention of first-term Marines. The chasm between FMF needs and manpower system performance has only widened as changes in technology have increased the complexity and breadth of required skills on modern battlefields. The presuppositions and policies codified in 1985 continue to bind senior leaders. So long as they do, General Berger’s aspirations for greater enlisted force maturity, cohesion, and proficiency as expressed in his Planning Guidance and “Force Design 2030” will remain unattainable.

5. BARRIERS TO CHANGE

It is difficult to get a man to understand something when his salary depends upon his not understanding it.

— Upton Sinclair¹²⁶

Bureaucratic change is hard. It is especially so for the specific type of bureaucracy typified by the Marine Corps. In his masterpiece, *Bureaucracy*, renowned professor of management James Q. Wilson classified types of bureaucratic organizations by whether outcomes and outputs can be easily observed. Under this classification, the Marine Corps is a “procedural organization” in which leaders and overseers can readily observe whether something was done (activity) but not whether or not it produced the desired result (effectiveness). According to Wilson, such a procedural organization “cannot afford to allow its operators to exercise discretion when the outcome of that exercise is in doubt or likely to be controversial.” Over time, “management becomes means-oriented... *How* the operators go about their jobs is more important than whether doing those jobs produces the desired outcome... standard operating procedures (SOPs) are pervasive... [and] continue to exert an influence even though they are actually getting in the way.”¹²⁷

Wilson separately categorizes bureaucracies by whether or not they are subjected to external constraints. From this perspective, the Marine Corps is what he terms a “constraint-driven bureaucracy.” In such organizations, the need for managers to publicly justify their conduct drives them to select options that are most defensible (e.g., safest) at the expense of innovation.¹²⁸ Per Wilson, in constraint-driven organizations, “managers have strong incentive to worry more about constraints than tasks.” Such constraints empower interveners who want to resist change and “equity becomes more important than efficiency.” Pressure to comply “tends to make managers more risk averse.”¹²⁹

Two particular external bureaucratic constraints appear to have contributed to a Marine Corps enlisted human capital system that is highly tolerant of waste and inefficiency as well as highly resistant to change and innovation. These provide powerful incentives to “make mission” and satisfy reporting requirements regardless of the true impact on the FMF. The Defense Readiness Reporting System (DRRS) requires regular reporting of the sheer number of personnel on hand without regard to experience, qualifications, or unit stability and cohesion. This pressures the service to fill units with relatively untrained and highly transient personnel. Likewise, the congressional requirement to report a specified end strength on September 30 of each year forces each service to contort itself, either by choreographing accession dates or speeding departures of otherwise-experienced mentors to ensure compliance with an inflexible reporting deadline.

Bureaucratic change is always disconcerting to stakeholders. The degree of change required to meet future FMF human capital requirements will invalidate many familiar customs,



The degree of change required to meet future FMF human capital requirements will invalidate many familiar customs, upend entrenched cultural practices, and reorder the existing system in unanticipated ways.

upend entrenched cultural practices, and reorder the existing system in unanticipated ways. Despite considerable entrenchment against change, there is a mounting body of evidence that is fundamentally irreconcilable with the continued logic of a high-turnover, low-investment enlisted system. A paradigm shift is required if “Force Design 2030” aspirations are to be attained. Yet barriers to change remain formidable.

Eight basic counterarguments against changing the current paradigm should be expected. Several more will surely emerge. None of these arguments is irrational. Each will be sincerely presented by honest, intelligent, and professional men and women who are invested in the current system and committed to the success of the Marine Corps. They should be dispassionately and thoroughly addressed:

- **Contentment with the *status quo*:** “The system is not broken, so why fix it?” When viewed from the perspective of congressional end strength authorizations, the system’s own retention and accession goals, and monthly DRRS reporting, the existing system is “making mission.” That is, through heroic effort by recruiters, drill instructors, other ELT instructors and staff, and manpower managers, the system is sustaining itself. Yet FMF commanders have complained for decades that this “successful” system continuously fails to provide combat units with the necessary supply of qualified noncommissioned officers and staff noncommissioned officers while it also disrupts unit stability. If one’s metrics are combat preparedness, technical proficiency, and unit stability, the existing system is scandalously inefficient.
- **Risk aversion:** “What if the new system fails?” Skeptics point to the fact that the Marine Corps routinely struggles to fill its already modest first-term retention goals, particularly within those MOSs devoted to ground combat. This is a serious reservation that illuminates the requirement for a complete change of paradigm rather than incrementalism. The fact that the service has struggled with retention of certain MOS groups for decades is actually a better argument for paradigm change than against it. Ultimately, this objection, which appeals to historical struggles with retention, fails to imagine a reordered paradigm in which FMF experience and talent are prioritized and rewarded above the logical pyramidal grade structure and repeated SDA tours.
- **A lack of data:** “The Marine Corps has insufficient data to model alternatives.” Major changes to entrenched bureaucratic procedures are risky, especially when the success or failure of the organization rests upon the outcome. In taking such risks, senior leaders seek extensive data, modeling, and simulations to justify their decisions. Yet, the Marine Corps lacks a robust data set and the capability to model and compare complex force structure alternatives.¹³⁰ Bernard Rostker, one of the most experienced administrators of Pentagon AVF manpower policies, noted, “The problem with modern personnel planning systems is not the lack of conceptual planning models. It is the lack of will on the part of senior managers to make... the commitment to collect and manage the mass of data required to ‘feed’ these systems.”¹³¹ This lack of data and modeling presents a formidable obstacle to human capital modernization. In confronting this challenge, the Marine Corps would do well to keep in mind that this dearth of data results from its own past resourcing choices. In the words of World War II Chief of Naval Operations Admiral Harold Stark, “Dollars can’t buy back yesterday.”¹³² The choice confronting the current commandant and other senior leaders is to play the ball where it lies and move forward based upon

the weight of compelling evidence of its outdated paradigm. While deliberate data collection and analysis is needed and should begin immediately, a lack of data should not delay the initiation of change.

- **Cost: “An alternative force will be prohibitively expensive.”** Some will argue, and already have argued with respect to “Force Design 2030,” that a more mature and experienced force will be prohibitively expensive. There appears to be an ingrained presupposition among many manpower personnel and senior leaders that a more mature, but smaller force will be too expensive. Indeed, it would be foolish to commit the Marine Corps to an unaffordable structure. This objection, however, falls short in two ways. First is the fact that reducing the size of the force provides opportunities to simultaneously mature the force without imposing an infeasible cost. Second, it relies on potentially outdated conventional wisdom and ignorance of complete cost data. Full cost data and modelling of alternatives is lacking. Any true cost accounting must factor in savings of reduced annual accessions and separations as well as reduced required ELT training costs. It must also consider potential cost savings and productivity increases of reduced disruptions to cohesion through fewer requirements for PCS and PCA moves of career personnel. The missing cost data problem cuts both ways; if pressed, the skeptic appears to lack proof that a lower turnover alternative is more expensive. If that is the case, then this objection rests more upon fear than science. In the end, a decision to mature the force must be founded upon a thorough analysis of benefits, costs, and risks. Senior leaders need to test a fully developed, fully informed, and imaginative range of options before they accept this argument.
- **Apathy: “It is less work to just keep doing what the Marine Corps has been doing.”** This objection to a reformed paradigm will likely never be stated quite so bluntly, but it will certainly be prevalent among those tasked with the daunting work of human capital reform. The existing Marine Corps system is deeply entrenched with interdependencies impacting the equities of multiple deputy commandants. Much work will be required to prudently unravel this Gordian knot. To succeed, Manpower & Reserve Affairs and Total Force Structure Division will almost certainly require augmentation and direct access to senior leaders to adjudicate hard decisions. While this concern should not become an excuse for inaction, neither should it be brushed aside. It truly is less work to follow a well-worn rut. More work will require more workers and an unwavering institutional commitment to resource the desired change. It will also require more work and personal influence from the service’s most senior leaders.
- **“We lack the authority.”** This argument will likely appear as a caution to senior leaders that more authorities are required. This, like the risk aversion objection above must be confronted with resolve. This argument stumbles on two counts. First, it ignores the fact the Navy, Air Force, and the Army figured out how to professionalize enlisted human capital to a much greater degree than the Marine Corps under identical legal constraints and authorities. Second, it presumes that Congress or the DOD would be unwilling to grant additional latitude if asked. Yet congressional committees of jurisdiction have repeatedly been willing to grant that very thing. Countering this argument should start with a complete and objective review of all potential retention measures and policy options available to the service under current authorities. Identify the maximum realm of what is legal and possible.

If those authorities are insufficient then the commandant can decide whether to approach Congress or the secretary of defense for policy changes and authorities necessary to support Marine Corps requirements.

- **“It’s not scalable in case of rapid expansion.”** Some will have concerns that a more highly trained, experienced, and mature enlisted force will not facilitate rapid expansion in a prolonged national security crisis. What if the Marine Corps must again expand, as it did in World War II or the Korean War? How could the service possibly scale up a more trained and experienced force? This is a red herring, a rear-guard action to defend low investment and high turnover. In the event of crisis expansion, whatever Marine Corps force exists will become the cadre — the scaffolding — upon which to build the enlarged emergency force. The true question is whether it is preferable for that cadre to be more highly trained, experienced, and mature.
- **Insufficient change agent tenure: “I’m not here long enough.”** This objection may never be stated out loud, but it will be a factor. Marine Corps senior officers rotate through jobs rapidly. Their tours are generally limited to two years or less. With few exceptions, they receive no formal education focused on their assignments even when those assignments are highly specialized and have direct corporate analogues. Itinerant, upwardly mobile leaders with only generalist knowledge are disproportionately reliant upon standard operating procedures and subordinate stakeholders of the *status quo*. This is particularly acute within a constraint-driven bureaucracy as described above by James Q. Wilson. Some combination of dedicated preparatory education followed by extended assignments for senior leaders within manpower management may be advisable. It may also be necessary to usher along entrenched stakeholders who are inclined to slow roll unpopular decisions.

6. THE CHOICE: CONTINUE WITH “RECRUIT AND REPLACE” OR MOVE TO “INVEST AND RETAIN”

The current “recruit and replace” system begins with the requirement of a logical pyramid overwhelmingly composed of junior first-term Marines and then seeks to compromise a balance of FMF manning and readiness needs against the high annual turnover requirement. It is indifferent to enlisted experience and seems to operate from an implied assumption that enlisted Marines are low-skilled, expendable labor readily available, inexpensively acquired, and inexpensively discarded. A changing character of war and the commandant’s clear vision confront Marine Corps leaders with a choice. Do they continue to double down on annually recruiting and replacing experienced Marines with minimally trained, and inexperienced replacements? Or, do they fundamentally reexamine the 36-year commitment to the logical pyramidal grade structure and minimal first-term retention? Do they reprioritize system rewards and incentives to deliver the greatest proportion of talent and experience within the FMF — and reduced ELT requirements — for a given personnel budget? If the institution is serious about achieving the commandant’s “Force Design 2030,” this is really no choice at all.

An alternative “invest and retain” system would begin with the actual human capital requirements of the FMF and then seek to minimize annual turnover, to maximize aggregate training and organizationally-specific skill and experience within the FMF, and to maximize unit stability. It would begin with an updated, detailed assessment of operating force need and then strive to only staff what is truly required. It would tolerate dissimilar grade structures across MOSs. It would consider whether emerging technology has rendered some force structure or MOSs fully or partially obsolete.¹³³ Such an enlisted force management model would also enjoy the ancillary benefit of reducing the number of required annual PCS moves which drive up costs and disrupt family stability.



Marine Corps enlisted human capital management is wasteful, hostile to the accumulation of experience, and unnecessarily disruptive to unit cohesion and stability. It is also ever more unfit for the requirements of 21st-century warfare.

When it comes to human capital, you get what you pay for. Once you have paid for it, it is in your interest to retain it and reap a return on the investment. The hidden presupposition of the recruit and replace paradigm is that Marine

Corps specific human capital requirements are low, and that Marines require minimal training and can be efficiently and effectively replaced by an influx of new recruits. In essence, the system is set up with a “strong back and weak mind” mentality appropriate for a low-skilled workforce. Marine Corps enlisted human capital management is wasteful, hostile to the accumulation of experience, and unnecessarily disruptive to unit cohesion and stability. It is also ever more unfit for the requirements of 21st-century warfare. To meet its “Force Design 2030” aspirations and prevail on today’s battlefields, the Marine Corps of 2021 needs a different Marine than it needed in 1985.

The corporate world and the other three military services and Special Operations Command (SOCOM) adapted to investment and retention realities long ago. Yet the Marine Corps has escalated commitment to its enlisted system premised on the logical pyramidal grade structure and low first-term retention. It has done so in the face of

abundant and mounting evidence of its system's human capital profligacy and chronic failure to provide designed quantities of fully-trained enlisted Marines to the FMF. Numerous service-funded Marine Corps, RAND, and CNA studies have recommended change. Yet the service continues to perpetuate myths of a "young-and-lean" and "more-bang-for-the-buck" force. As a result, the Marine Corps has the highest annual enlisted turnover leading to the lowest levels of experience within its ranks of any service. High turnover and dependence upon a disproportionately large influx of untrained recruits annually magnifies the negative impact of its 20% non-EAS attrition by preferring to bring in new recruits rather than to retain Marines who have passed through the period of greatest attrition risk. This system has been unable for years to fill FMF enlisted job openings with fully trained and experienced Marines.

To make matters worse, the service's annual turnover process assigns a large proportion of high-quality, second-term Marines to duties as recruiters, drill instructors, and entry-level faculty school faculty and staff. To sustain the conveyor belt of inexperienced recruits replacing the mass of departing first-term Marines, the Marine Corps devotes a disproportionately large element of its best career Marines to duty as recruiters, drill instructors, and combat instructors. These "special" duty assignments, which are devoted to providing basically trained, minimally proficient Marines, enjoy staffing precedence above the FMF and divert some of the most talented and most experienced noncommissioned officers and staff noncommissioned officers away from combat units for extended tours. It is not uncommon for an E-8 with 20 years of service to have spent two tours — six years, or 30% of his or her career — on SDAs. In several cases, senior enlisted leaders have spent nine years across three tours on SDAs and away from their primary MOSs.

Committed to its high-turnover, low-experience paradigm, the Marine Corps faces a hard truth: its enlisted human capital management system is optimized to an outmoded, Reagan-era construct which has the tragic side effect of promoting an FMF enlisted force characterized by inefficiency, inexperience, and itinerancy. Yet the service faces a more technologically dense and distributed future battlefield which will require increased training, experience, and maturity across the enlisted force. Senior Marine leaders find themselves trapped on the horns of a dilemma of the Marine Corps' own making. If the service is to become the force it says it wants to be, massive fundamental changes to its enlisted human capital paradigm are required. Change cannot be achieved without reordering the most basic presuppositions of its enlisted management worldview. Change on the scale required will be disconcerting to stakeholders within the system. Leading such change will demand unparalleled resolve, direct and sustained senior leader attention, and most of all, courage.

LIST OF ACRONYMS

AVF	All-Volunteer Force
CFT	Combat Fitness Test
DACOWITS	Defense Advisory Committee on Women in the Services
DRRS	Defense Readiness Reporting System
EAS	End of Active Service
ECFC	Enlisted Career Force Controls
EGSR	Enlisted Grade Structure Review
ELT	Entry-Level Training
FMF	Fleet Marine Force
GED	General Educational Development
IARPA	Intelligence Advanced Research Projects Agency
MCT	Marine Combat Training
MOS	Military Occupational Specialty
MRI	Magnetic Resonance Imaging
NCO	Non-Commissioned Officer
OJT	On-the-Job Training
PCA	Permanent Change of Assignment
PCS	Permanent Change of Station
PFT	Physical Fitness Test
ROI	Return on Investment
SDA	Special Duty Assignment
SOI	School of Infantry
TIS	Time in Service
T/O	Table of Organization
TRS	Transition Readiness Seminar

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53 Ibid.

54 Ibid. Though this language is here quoted from the 1997 message, this same quote has remained as boilerplate guidance in every subsequent ECFC message. For instance, see paragraph 3.c.2. of the most recently published Enlisted Career Force Controls Program message, Marine Administrative (MARADMINs) message 555/17, United States Marine Corps, October 10, 2017, <https://www.marines.mil/News/Messages/Messages-Display/Article/1338787/fy18-enlisted-career-force-controls-ecfc-program/>.

55 Special Duty Assignments (SDAs) provide a unique case. The Marine Corps has had four traditional SDAs: drill instructor duty, recruiting, combat instructor duty at School of Infantry or Marine Combat Training, and supervisory duty as a Marine security guard in a U.S. embassy. The service hand-selects from among the most talented career Marines to fill these job openings. It is universally understood that having multiple successful SDA tours of duty is a prerequisite for future promotion to first sergeant and sergeant major. Note that three of the four SDAs are devoted to accessing and providing entry-level training for the high volume of replacements instigated by deliberately low retention of trained Marines and that each of these coveted SDAs resides outside of the FMF. It is a characteristic of any institution to get more of behaviors it rewards. If the Marine Corps becomes truly committed to an invest-and-retain model, it will have to consider policies to make repeated and prolonged service in the FMF within one's primary specialty the "most special duty assignment."

56 "Surveys of Officer and Enlisted Personnel and Military Spouses, 1985," (Defense Manpower Data Center, U.S. Department of Defense / Inter-university Consortium for Political and Social Research, 2007), <https://www.icpsr.umich.edu/web/ICPSR/studies/6340/summary>.

57 Thomas A. Finn, "Reenlistment behavior of first and second term Marine Corps enlisted personnel," (master's thesis, Naval Postgraduate School, 1988), 31-44, <https://calhoun.nps.edu/handle/10945/23374>.

58 Sean A. Kerr, "Retention of first-term and second-term Marine Corps enlisted personnel," (master's thesis, Naval Postgraduate School, 1997), 1-2, <https://calhoun.nps.edu/handle/10945/8919>. This disregarded thesis by Captain Kerr contains exceptional analysis that remains relevant to present challenges. It should be considered in any literature review of this topic.

59 Sean A. Kerr, "Retention of first-term and second-term Marine Corps enlisted personnel," 10.

60 David W. Sommers, "Hearings before a Subcommittee of the Committee on Appropriations, United States Senate, One Hundred First Congress, First Session, on H.R. 3072, an Act Making Appropriations for the Department of Defense for the Fiscal Year Ending September 30, 1990, and for Other Purposes," (congressional testimony, March 14, 1989), 147, <https://bit.ly/3bXZFcS>.

61 Note that this measure of performance of the percentage of Marines in the top six enlisted ranks comes directly from the 1985 "Department of Defense Instruction 1300.14: Enlisted Personnel Management System" and its implied pressure to reduce the size of the career force.

62 Richard Neal, "Hearings Before a Subcommittee of the Committee on Appropriations, House of Representatives, One Hundred Fifth Congress, Second Session, Subcommittee on National Security," (congressional testimony, March 18, 1998), 33, <https://bit.ly/2TmyhPt>.

63 Ibid. Thus, the answer was to double down on turnover by increasing spending on advertising in support of recruiting and increasing the number of the highest quality noncommissioned officers and staff noncommissioned officer career Marines diverted from the FMF to the recruiter SDA.

64 Lewis G. Lee, "Hearings Before a Subcommittee of the Committee on Appropriations, House of Representatives, One Hundred Fifth Congress, First Session, Subcommittee on National Security," (congressional testimony, March 19, 1997), <https://www.govinfo.gov/content/pkg/CHRG-105hhrg77485/html/CHRG-105hhrg77485.htm>.

65 "Table D-15. Active Component Enlisted Strength, FYs 1964, 1973-1997 (in Thousands)," in "Population Representation in the Military Services, 1997," Office of the Assistant Secretary of Defense (Force Management Policy), U.S. Department of Defense, November 1998, <https://www.cna.org/pop-rep/1997/html/d-15.html>.

66 It is also worth noting that Lee's numbers were off; 18,000 of 110,000 first-termers is only 16.4%. According to the RAND Corporation, the Marine Corps reenlisted 19% of first-termers in 1997. For context, first-term reenlistments in the other services that year were: Army, 48%; Navy, 31%; and Air Force, 50%. See Beth J. Asch, James Hosek, Jeremy Arkes, C. Christine Fair, Jennifer Sharp, and Mark E. Totten, "Military Recruiting and Retention After the Fiscal Year 2000 Military Pay Legislation," (Santa Monica, CA: RAND Corporation, 2002), 89, https://www.rand.org/pubs/monograph_reports/MR1532.html.

67 "Chronologies – 1985," Marine Corps University, <https://www.usmcu.edu/Research/Marine-Corps-History-Division/Research-Tools-Facts-and-Figures/Chronologies-of-the-Marine-Corps/1985>.

68 Regarding the value of experience, the readers should note that Malcolm Gladwell's *Outliers: The Story of Success* remains on the current commandant of the Marine Corps' Professional Reading List. This is the book in which Gladwell frames his famous 10,000-hour rule on developing true expertise. Psychologist Gary A. Klein's book, *Sources of Power: How People Make Decisions*, was for several years on the Professional Reading Lists of previous commandants. Klein's key contribution is his study of "recognition-primed decision making" which argues that the accumulation of skill-specific experience through thousands of iterations develops intuition which proves decisive in life-or-death situations. Discarding experienced Marines and replacing them with inexperienced ones is contradictory to the central theses of these two authors. See Malcolm Gladwell, *Outliers: The Story of Success* (New York: Little, Brown and Company, 2008); Gary A. Klein, *Sources of Power: How People Make Decisions* (Cambridge, MA: The MIT Press, 1998).

69 “Appendix B: Active Component. Table B-1: Non-Prior Service (NPS) Active Component Enlisted Accessions, FY16: by Service, Gender, and Age with Civilian Comparison Group,” in “Population Representation in the Military Services: Fiscal Year 2016,” Office of the Under Secretary of Defense, Personnel and Readiness, U.S. Department of Defense, <https://www.cna.org/pop-rep/2016/summary/summary.html>.

70 “Appendix B: Active Component. Table B-15: Active Component Enlisted Members, FY16: by Service, Gender, and Age Group with Civilian Comparison Group,” in “Population Representation in the Military Services: Fiscal Year 2016,” Office of the Under Secretary of Defense, Personnel and Readiness, U.S. Department of Defense, <https://www.cna.org/pop-rep/2016/summary/summary.html>.

71 “Appendix B: Active Component. Table B-36: Active Component Enlisted Members, FY16: by Pay Grade, Service, and Gender,” in “Population Representation in the Military Services: Fiscal Year 2016,” Office of the Under Secretary of Defense, Personnel and Readiness, U.S. Department of Defense, <https://www.cna.org/pop-rep/2016/summary/summary.html>.

72 Ibid. The author calculated the average enlisted rank distribution across all the other services into the baseline. He then compared the Marine Corps’ distribution to that baseline to reveal the degree to the Marine Corps over- or under-represented from the DOD average at each enlisted rank.

73 Gorman C. Smith, “Occupational Pay Differentials for Military Technicians,” 124-137. Smith conducted a large-n, subjective survey of staff non-commissioned officers across numerous MOS groups in all services asking them what percentage of full proficiency new members performed upon arrival to the operating forces, and at 12 months, 24 months, and 36 months of service. The Infantry Rifleman curve reflects Smith’s data. The Electro-Optical Ordnance Repairman curve is an approximation based upon Smith’s data for “missile repairman.”

74 After boot camp, non-infantry Marines complete a period of Marine Combat Training (MCT) where they learn basic infantry skills indispensable to the Marine Corps. After MCT, new Marines are then sent to their MOS granting schools for technical training. Infantry Marines receive a more intense intermediate training at the School of Infantry (SOI) which awards their MOS upon graduation.

75 David H. Berger, “Force Design 2030,” 9.

76 “Marine Corps Historical NEAS Attrition,” Headquarters U.S. Marine Corps, Manpower & Reserve Affairs, February 4, 2020. PowerPoint brief prepared for internal service analysis and in the author’s possession.

77 Ibid.

78 Lewis G. Lee and Aline O. Quester, “Distributed Operations: Manpower Policies for Developing Small Unit Leaders” (Alexandria, VA: CNA, March 2007), 1, 13-14, <https://apps.dtic.mil/sti/pdfs/ADB327402.pdf>.

79 If senior Marine Corps leaders are willing to consider modernizing enlisted human capital management, a detailed cost modeling of alternatives which fully accounts for reduced drill instructor, faculty, staff, and PCS requirements should be conducted by external labor economists and analysts and presented to senior leaders for decision. Any such analysis should also consider the intangible benefits such as unit cohesion and greater FMF tenures of a reduced attrition option. Such intangible benefits are difficult to budget, but have historically proved advantageous in battle. In other words, a slightly more expensive, but much more efficient system may be well worth the money.

80 For an excellent econometric summary of this principle — as well as a potential template for a modern quantitative comparison of alternatives — see chapter 3, “The First Term Retention Problem,” in Gorman C. Smith, “Occupational Pay Differentials for Military Technicians,” 52-88.

81 Anita U. Hattiangadi, Deena Ackerman, Theresa H. Kimble, and Aline O. Quester, “Cost-Benefit Analysis of Lump Sum Bonuses for Zone A, Zone B, and Zone C Reenlistments: Final Report” (Alexandria, VA: CNA, 2004), 79-80, https://www.cna.org/cna_files/pdf/d0009652.a4.pdf.

82 Maximum benefits calculated by using the 2021 maximum tuition rate of \$26,042.81 and book stipend of \$1,000 multiplied by four academic years plus 36 of the \$4,614 monthly housing allowance rate for San Francisco, CA. “Post-9/11 GI Bill (Chapter 33) Payment Rates for 2021 Academic Year (August 1, 2021 - July 31, 2022),” U.S. Department of Veterans Affairs, https://benefits.va.gov/GIBILL/resources/benefits_resources/rates/ch33/ch33rates080121.asp.

83 Derived from “Appendix B: Active Component. Table B-1: Non-Prior Service (NPS) Active Component Enlisted Accessions, FY16: by Service, Gender, and Age with Civilian Comparison Group” and “Appendix B: Active Component. Table B-15: Active Component Enlisted Members, FY16: by Service, Gender, and Age Group with Civilian Comparison Group,” in “Population Representation in the Military Services: Fiscal Year 2016,” Office of the Under Secretary of Defense, Personnel and Readiness, U.S. Department of Defense, <https://www.cna.org/pop-rep/2016/summary/summary.html>.

84 “The Target Population for Military Recruitment: Youth Eligible to Enlist without a Waiver” (Alexandria, VA: Joint Advertising Market Research & Studies (JAMRS), U.S. Department of Defense, September 2016) <https://dacowits.defense.gov/Portals/48/Documents/General%20Documents/RFI%20Docs/Sept2016/JAMRS%20RFI%2014.pdf?ver=2016-09-09-164855-510>.

85 “Futures Survey Spring 2017,” (Alexandria, VA: Joint Advertising Market Research & Studies (JAMRS), U.S. Department of Defense, January 2018), <https://jamrs.defense.gov/Portals/20/Futures-Survey-Spring-2017.pdf>.

86 Gina Harkins, “3 Ways the Marines Are Making Their Fitness Tests Tougher in 2019,” Military.com, September 24, 2018, <https://www.military.com/daily-news/2018/09/24/new-regs-mean-marines-will-have-harder-time-passing-fitness-tests-next-year.html>.

87 “Marine Corps Order 6100.13A with Change 2: Marine Corps Physical Fitness and Combat Fitness Tests,” Headquarters U.S. Marine Corps, December 30, 2019, <https://www.fitness.marines.mil/Portals/211/documents/MCO%206100.13A%20CH-2.pdf>. Marine Corps female scoring tables follow a similar pattern of greater physical performance required for an equivalent score in the 21-25 and 26-30 age groups.

88 Due to the aggregated nature of the dataset, it is not possible to reverse engineer a common scoring table across all ranks.

89 United States Marine Corps, Manpower & Reserve Affairs Active Component PFT and CFT Data drawn from anonymized data on March 19, 2020 before the COVID-19 suspension of unit physical fitness activities went into effect, <https://www2.manpower.usmc.mil/ncp/pftAverage> and <https://www2.manpower.usmc.mil/ncp/cftAverage>. Note: Access to this Marine Corps web application requires a Department of Defense Common Access Card.

90 Sara B. Johnson, Robert W. Blum, and Jay N. Giedd, “Adolescent Maturity and the Brain: The Promise and Pitfalls of Neuroscience Research in Adolescent Health Policy,” *Journal of Adolescent Health* 45, no. 3 (September 2009): 216, 218, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2892678/>.

91 Ronald E. Dahl, “Adolescent brain development: a period of vulnerabilities and opportunities. Keynote address,” *Annals of the New York Academy of Sciences* 1021 (June 2004): 3, <https://pubmed.ncbi.nlm.nih.gov/15251869/>.

92 Ibid., 7, 20.

- 93 Laurence Steinberg, "Risk taking in adolescence: what changes, and why?," *Annals of the New York Academy of Sciences* 1021 (June 2004): 57, <https://pubmed.ncbi.nlm.nih.gov/15251873/>.
- 94 Jay N. Giedd, "Structural magnetic resonance imaging of the adolescent brain," *Annals of the New York Academy of Sciences* 1021 (June 2004): 77, <https://pubmed.ncbi.nlm.nih.gov/15251877/>.
- 95 Beatriz Luna and John A. Sweeney, "The emergence of collaborative brain function: FMRI studies of the development of response inhibition," *Annals of the New York Academy of Sciences* 1021 (June 2004): 296, 302-306, <https://pubmed.ncbi.nlm.nih.gov/15251900/>.
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- 97 *Roper v. Simmons*, 543 U.S. 551 (2005), Opinion of the Court (Kennedy), <https://supreme.justia.com/cases/federal/us/543/551/>.
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- 99 Tanveer Talukdar, Francisco J. Román, Joachim T. Operskalski, Christopher E. Zwillling, and Aron K. Barbey, "Individual differences in decision making competence revealed by multivariate fMRI," *Human Brain Mapping* 39, no. 6 (June 2018): 2664-2672, <https://onlinelibrary.wiley.com/doi/full/10.1002/hbm.24032>. Note: This study evaluated 304 healthy participants ranging in age from 18-34 who were evaluated under fMRI while completing the Adult Decision-Making Competence (ADM-C) battery.
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- 101 Author correspondence with director, Commandant of the Marine Corps Safety Division, April 2020.
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- 103 Charles Krulak, "Ne Cras," (speech, Washington, DC, October 10, 1997), <https://www.c-span.org/video/?92628-1/marine-corps-future>.
- 104 Terry Terriff, "Of Romans and Dragons: Preparing the US Marine Corps for Future Warfare," *Contemporary Security Policy* 28, no. 1 (April 2008): 148-149, <https://doi.org/10.1080/13523260701240583>.
- 105 Ibid., 155.
- 106 Ibid., 153.
- 107 While many of the studies and papers cited here are focused on infantry and other ground combat MOSs, the problem they attempt to address applies in principle across the future force envisioned by the current commandant.
- 108 Paul Kennedy, "Equipping our Strategic Corporal for 21st Century Warfare" (Quantico, VA: School of Advanced Warfighting, May 2002). Kennedy retired in 2019 as a major general and head of Marine Corps Recruiting Command.
- 109 Christian F. Wortman, "Operationalizing Distributed Operations: Enlisted Manpower Requirements and Solutions" (Quantico, VA: School of Advanced Warfighting, May 16, 2005), <https://apps.dtic.mil/sti/citations/ADA563807>. Wortman is currently a brigadier general and recently commanded the Marine Corps Warfighting Laboratory.

- 110 John C. Sommerer, James M. Feigley, A. Michael Andrews II, Fernando L. Fernandez, Paul Fratarangelo, Valerie J. Gawron, E.R. Kohn, William A. Neal, Norman Polmar, John T. Tozzi, Christopher B. Wallace, George Akst, Stephen L. Cabrian, Roy V. Toliver, "Distributed Operations" (Washington, DC: Naval Research Advisory Committee, July 2006), 4, <https://www.onr.navy.mil/en/About-ONR/History/nrac/reports-and-executive-summaries/reports-chronological>.
- 111 Lewis G. Lee and Aline O. Quester, "Distributed Operations," 1.
- 112 Robert Neller, "A Commitment to Squad Leaders." Unpublished and undated white letter distributed to senior leaders in July 2007 while Neller was commanding general of 3rd Marine Division. This paper was forwarded by Lieutenant General Neller to Deputy Commandant for Plans, Policies, and Operations Lieutenant General Joseph Dunford and copied to Colonel George Smith and Sergeant Major of the Marine Corps Carlton Kent on May 6, 2011 in an email in the author's possession.
- 113 Robert Scales, "Infantry and National Priorities," *Armed Forces Journal* (December 2007): 14-17, 45. In fact, this realization of the need to increase training, experience, and maturity of combat Marines and soldiers to prepare them for the complexity, pace, and dispersion of the modern battlefield was the primary impetus for the creation of the secretary of defense's Close Combat Lethality Task Force in 2018.
- 114 Blair Sokol, "Reframing Marine Corps Distributed Operations and Enhanced Company Operations," (master's thesis, Leavenworth, KS: School of Advanced Military Studies, 2009), 20, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a513698.pdf>. Colonel Sokol currently directs the Marine Corps War College.
- 115 Thomas M. Tennant, "Where are the Infantry Sergeants? An Examination of the Marine Corps' Policies and Processes that Adversely Affected the Availability of Infantry Sergeants to Serve as Squad Leaders in the Operating Forces," (master's thesis, Marine Corps University, March 17, 2009), <https://apps.dtic.mil/sti/citations/ADA509378>.
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- 117 Ibid., 31-32.
- 118 Barak A. Salmoni, Jessica Hart, Todd Helmus, and John Gordon, "From the 'Strategic Corporal' to a Marine Corps NCO Strategy: Developing the Next Generation of Enlisted Infantry Small Unit Leaders," (Washington, DC: RAND Corporation, 2010). Public distribution of this report is prohibited by the DOD. For readers with access to this report, please see the full quotes at bullet 5) on p. xvii and pp. 241-280 in their entirety.
- 119 James F. Amos, "35th Commandant of the Marine Corps Commandant's Planning Guidance" (Washington, DC: United States Marine Corps, October 2010), 9, <https://www.marines.mil/Portals/1/Publications/35th%20CMC%27s%20Planning%20Guidance.pdf>.
- 120 "Developing Small Unit Leaders: The Strategic Corporal and the Infantry Squad Leader," (Quantico, VA: Marine Corps Combat Development Command, August 2011).
- 121 Joseph Dunford, "36th Commandant's Planning Guidance" (Washington, DC: United States Marine Corps, February 6, 2015), 6-7, https://www.hqmc.marines.mil/Portals/142/Docs/2015CPG_Color.pdf.
- 122 Luis Martinez, Ali Weinberg, and Justin Fishel, "Gen. Joseph Dunford to be Nominated as Next Chairman of Joint Chiefs of Staff," ABC News, May 4, 2015, <https://abcnews.go.com/Politics/gen-joseph-dunford-nominated-chairman-joint-chiefs-staff/story?id=30800314>.
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124 Semi-annual Marine Corps Ground Boards archive their conclusions and recommendations in formal messages used for internal service deliberations and resourcing decisions. These reports are unclassified and retained by the deputy commandant for Plans, Policies, and Operations (DC, PP&O) at Headquarters U.S. Marine Corps and can be made available to researchers upon request. See HQMC DMDS unclassified message “Ground Board 1-07 Report” dated Thursday, May 24, 2007 at 16:07. See also Ground Board messages from the following boards: 2-07, 2-08, 1-09, 1-10, 2-10, 1-11, 2-12, 2-13, 1-14, 2-14, 1-15, 2-15, 1-16, 2-16, and 1-17. All of these reports call for the service to increase the training, proficiency, and maturity of enlisted Marines.

125 As this report is For Official Use Only it is not quoted or cited here. However, it is readily available to Marine Corps leaders. The observation referred to here is prominent within the report’s executive summary.

126 Upton Sinclair, *I, Candidate for Governor: And How I Got Licked* (Berkeley, CA: University of California Press, 1935), 109.

127 James Q. Wilson, *Bureaucracy: What Governments Do and Why They Do It* (New York: Harper Collins, 1989), 163-164.

128 Ibid., 128.

129 Ibid., 131-133.

130 Anita U. Hattiangadi, Deena Ackerman, Theresa H. Kimble, and Aline O. Quester, “Cost-Benefit Analysis of Lump Sum Bonuses for Zone A, Zone B, and Zone C Reenlistments,” 79-80. Recall as quoted earlier in the paper that the authors concluded: “Unfortunately, the Marine Corps does not compile training costs by PMOS... For a variety of reasons, we would argue that the Marine Corps should have training cost data. Such data are invaluable inputs to the solutions of a variety of policy questions... That said, it is extremely difficult to estimate training costs, as many different budgetary accounts are involved and many costs are hidden inside larger accounts.”

131 Bernard D. Rostker, *I Want You!*, 238.

132 Admiral Harold Stark lamenting the U.S. Navy’s lack of shipbuilding preparation on the eve of World War II as quoted in Geoffrey Parret, *Days of Sadness, Years of Triumph* (Madison, WI: University of Wisconsin Press, 1985), 36.

133 It is quite possible that technology has allowed some uniformed Marine MOSs to be replaced by Marine Corps civilians who are more geographically stable and not subject to the same fitness and grooming standards. Such a change would decrease itinerant amateurism within these job openings and greatly expand the potential talent pool from which to recruit highly skilled civilian Marines.

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